

LOWER LLAGAS CREEK WATERSHED

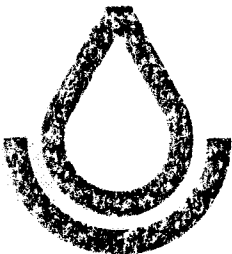
SANTA CLARA COUNTY, CA.

**LOMA PRIETA RESOURCE CONSERVATION DISTRICT
GAVILON WATER DISTRICT
SANTA CLARA VALLEY WATER DISTRICT**

**PLANS & SPECIFICATIONS
FOR CONSTRUCTION OF**

LLAGAS CREEK WATERSHED REACH 2B

INVITATION NO. SCS-1-CA-84



U.S. DEPARTMENT OF AGRICULTURE

SOIL CONSERVATION SERVICE

C O N T E N T S

Invitation No. SCS-1-CA-84

INVITATION FOR BIDS - Standard Form 20
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BID SCHEDULE
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BID BOND - Standard Form 24
STANDARD FEDERAL EEO CONSTRUCTION CONTRACT SPECIFICATIONS - Executive
Order 11246
SCS SUPPLEMENT TO OSHA PARTS 1910 AND 1926

SPECIFICATIONS

<u>Number</u>	<u>Title</u>
2	Clearing and Grubbing
3	Structure Removal
5	Pollution Control
6	Seeding and Mulching
8	Mobilization
11	Removal of Water
21	Excavation
23	Earth Fill
24	Drain Fill
32	Concrete for Minor Structures
51	Corrugated Metal Pipe Conduits
61	Loose Rock Riprap
62	Grouted Rock Riprap

SPECIFICATIONS - (cont'd)

81	Metal Fabrication and Installation
400	Willow Cuttings
401	Pavement
402	Public Safety

Material

522	Aggregate for Portland Cement Concrete
523	Rock for Riprap
531	Portland Cement
532	Air-Entraining Admixtures
533	Water-Reducing and Set-Retarding Admixtures
534	Curing Compound (for Concrete)
551	Zinc-coated Iron or Steel Corrugated Pipe
581	Metal

Drawings No. CA-E-23910
Sheets 1 through 34

INVITATION FOR BIDS
(CONSTRUCTION CONTRACT)

INVITATION NO. SCS-1-CA-84

DATE

March 29, 1984

NAME AND LOCATION OF PROJECT

Lower Llagas Creek Watershed, Reach
2B, located near the City of Gilroy,
Santa Clara County, California

DEPARTMENT OR AGENCY

U. S. Department of Agriculture
Soil Conservation Service

BY (*Issuing office*) Soil Conservation Service
2828 Chiles Rd.
Davis, CA 95616

Sealed bids in single copy for the work described herein will be received until
11:00 a.m. local time at the place of bid opening, April 30, 1984
at 2828 Chiles Rd., Davis, CA 95616

and at that time publicly opened.

Information regarding bidding material, bid guarantee, and bonds

A bid guarantee in an amount not less than 20% of the total bid price must be submitted with each bid in a form described in Clause 4 of the attached Instructions to Bidders, Standard Form 22.

A Performance Bond and a Payment Bond on forms provided by the Government, in penal sums, 100% and 40% respectively, of the original amount of the contract, shall be furnished as provided in Clause 11 of the attached Instructions to Bidders, Standard Form 22.

The following attachments hereto form a part of the invitation for bids and any resultant contract: Bid Schedule; General Provisions - Standard Form 23-A; Special Provisions; Labor Standards Provisions - Standard Form 19-A; Disabled Veterans and Veterans of the Vietnam Era - Form AD-716; Employment of the Handicapped - Form AD-655; Standard Federal Equal Employment Opportunity Construction Contract Specifications; Supplement to OSHA Parts 1910 and 1926 Construction Standards and Interpretations; and Specifications and Drawings listed under "Contents".

Description of work - Construction of approximately 4700 feet of earth channel including three grouted rock riprap grade stabilization structures to stabilize the invert.

The work shall begin within ten (10) calendar days and be completed within two hundred (200) calendar days after the date of receipt of the notice to proceed.

INSPECTION OF WORKSITE--Prospective bidders may assemble at the SCS office, 401 Tenth St., Gilroy, CA on Tuesday, April 17 and Thursday, April 19, 1984, for a group showing of the worksite. The group will leave the office at 10:00 a.m. on each of the above days. If you are unable to attend one of the group showings, arrangements to inspect the site may be made with Ralph Blair, Project Engineer, SCS, 401 Tenth St., Suite 2, Gilroy, CA 95020, phone (408) 847-4161.

INSTRUCTIONS TO BIDDERS

(CONSTRUCTION CONTRACT)

1. **Explanations to Bidders.**—Any explanation desired by a bidder regarding the meaning or interpretation of the invitation for bids, drawings, specifications, etc., must be requested in writing and with sufficient time allowed for a reply to reach bidders before the submission of their bids. Any interpretation made will be in the form of an amendment of the invitation for bids, drawings, specifications, etc., and will be furnished to all prospective bidders. Its receipt by the bidder must be acknowledged in the space provided on the Bid Form (Standard Form 21) or by letter or telegram received before the time set for opening of bids. Oral explanations or instructions given before the award of the contract will not be binding.

2. **Conditions Affecting the Work.**—Bidders should visit the site and take such other steps as may be reasonably necessary to ascertain the nature and location of the work, and the general and local conditions which can affect the work or the cost thereof. Failure to do so will not relieve bidders from responsibility for estimating properly the difficulty or cost of successfully performing the work. The Government will assume no responsibility for any understanding or representations concerning conditions made by any of its officers or agents prior to the execution of the contract, unless included in the invitation for bids, the specifications, or related documents.

3. **Bidder's Qualifications.**—Before a bid is considered for award, the bidder may be requested by the Government to submit a statement regarding his previous experience in performing comparable work, his business and technical organization, financial resources, and plant available to be used in performing the work.

4. **Bid Guarantee.**—Where a bid guarantee is required by the invitation for bids, failure to furnish a bid guarantee in the proper form and amount, by the time set for opening of bids, may be cause for rejection of the bid.

A bid guarantee shall be in the form of a firm commitment, such as a bid bond, postal money order, certified check, cashier's check, irrevocable letter of credit or, in accordance with Treasury Department regulations, certain bonds or notes of the United States. Bid guarantees, other than bid bonds, will be returned (a) to unsuccessful bidders as soon as practicable after the opening of bids, and (b) to the successful bidder upon execution of such further contractual documents and bonds (including any necessary coinsurance or reinsurance agreements) as may be required by the bid as accepted.

If the successful bidder, upon acceptance of his bid by the Government within the period specified therein for acceptance (sixty days if no period is specified) fails to execute such further contractual documents, if any, and give such bond(s) (including any necessary coinsurance or reinsurance agreements) as may be required by the terms of the bid as accepted within the time specified (ten days if no period is specified) after receipt of the forms by him, his contract may be terminated for default. In such event he shall be liable for any cost of procuring the work which exceeds the amount of his bid, and the bid guarantee shall be available toward offsetting such difference.

5. **Preparation of Bids.**—(a) Bids shall be submitted on the forms furnished, or copies thereof, and must be manually signed. If erasures or other changes appear on the forms, each erasure or change must be initialed by the person signing the bid. Unless specifically authorized in the invitation for bids, telegraphic bids will not be considered.

(b) The bid form may provide for submission of a price or prices for one or more items, which may be lump sum bids, alternate prices, scheduled items resulting in a bid on a unit of construction or a combination thereof, etc. Where the bid form explicitly requires that the bidder bid on all items, failure to do so will disqualify the bid. When submission of a price on all items is not required, bidders should insert the words "no bid" in the space provided for any item on which no price is submitted.

(c) Unless called for, alternate bids will not be considered.

(d) Modification of bids already submitted will be considered if received at the office designated in the invitation for bids by the time set for opening of bids. Telegraphic modifications will be considered, but should not reveal the amount of the original or revised bid.

6. **Submission of Bids.**—Bids must be sealed, marked, and addressed as directed in the invitation for bids. Failure to do so may result in a premature opening of, or a failure to open, such bid.

7. **Withdrawal of Bids.**—Bids may be withdrawn by written or telegraphic request received from bidders prior to the time set for opening of bids. (See par. 8 regarding late withdrawals.)

8. Late Bids, Modifications of Bids, or Withdrawal of Bids.—(a) Any bid received at the office designated in the solicitation after the exact time specified for receipt will not be considered unless it is received before award is made and either:

(1) It was sent by registered or certified mail not later than the fifth calendar day prior to the date specified for the receipt of bids (e.g., a bid submitted in response to a solicitation requiring receipt of bids by the 20th of the month must have been mailed by the 15th or earlier); or

(2) It was sent by mail (or telegram if authorized) and it is determined by the Government that the late receipt was due solely to mishandling by the Government after receipt at the Government installation.

(b) Any modification or withdrawal of a bid is subject to the same conditions as in (a), above. A bid may also be withdrawn in person by a bidder or his authorized representative, provided his identity is made known and he signs a receipt for the bid, but only if the withdrawal is made prior to the exact time set for receipt of bids.

(c) The only acceptable evidence to establish:

(1) The date of mailing of a late bid, modification, or withdrawal sent either by registered or certified mail is the U.S. Postal Service postmark on both the envelope or wrapper and on the original receipt from the U.S. Postal Service. If neither postmark shows a legible date, the bid, modification, or withdrawal shall be deemed to have been mailed late. (The term "postmark" means a printed, stamped, or otherwise placed impression (exclusive of a postage meter machine impression) that is readily identifiable without further action as having been supplied and affixed on the date of mailing by employees of the U.S. Postal Service. Therefore, offerors should request the postal clerk to place a hand cancellation bull's-eye

"postmark" on both the receipt and the envelope or wrapper.)

(2) The time of receipt at the Government installation is the time-date stamp of such installation on the bid wrapper or other documentary evidence of receipt maintained by the installation.

(d) Notwithstanding (a) and (b) of this provision, a late modification of an otherwise successful bid which makes its terms more favorable to the Government will be considered at any time it is received and may be accepted.

NOTE: The term "telegram" includes mailgrams.

9. Public Opening of Bids.—Bids will be publicly opened at the time set for opening in the invitation for bids. Their content will be made public for the information of bidders and others interested, who may be present either in person or by representative.

10. Award of Contract.—(a) Award of contract will be made to that responsible bidder whose bid, conforming to the invitation for bids is most advantageous to the Government, price and other factors considered.

(b) The Government may, when in its interest, reject any or all bids or waive any informality in bids received.

(c) The Government may accept any item or combination of items of a bid, unless precluded by the invitation for bids or the bidder includes in his bid a restrictive limitation.

11. Contract and Bonds.—The bidder whose bid is accepted will, within the time established in the bid, enter into a written contract with the Government and, if required, furnish performance and payment bonds on Government standard forms in the amounts indicated in the invitation for bids or the specifications.

SPECIAL INSTRUCTIONS TO BIDDERS

1. AWARD OF CONTRACT

- (a) No bid will be considered unless all items in the bid schedule are priced and only one contract will be awarded unless otherwise stated in the invitation.
- (b) The contract will be awarded based on the total bid, corrected if necessary, for errors in price extensions and/or additions. In case of error in price extension, the unit price will govern.

2. SPECIFICATIONS

Specifications referred to herein shall include all revisions and amendments in effect on the date of issuance of the invitation for bids. Information as to where these specifications may be obtained can be acquired from the office issuing the invitation.

3. RECORDS

Records of the site investigations and soil mechanics testing report may be reviewed by prospective bidders by contacting the office issuing this invitation.

4. WORKWEEK--CONSTRUCTION SCHEDULE

The Contractor shall, within ten days after receipt of a written request from the Contracting Officer and prior to award, submit in writing for approval:

- (a) A construction schedule showing the order in which he proposes to carry on the work indicating the periods during which he will perform work on each item listed in the bid schedule.
- (b) The hours and days he proposes to carry out the work. The maximum workweek that will be approved is ten hours a day, Monday through Saturday, include daily starting and stopping times. Failure to submit the proposed construction schedule and days and hours of work within the time specified may be cause for rejection of the bid.

- 5. The bidder shall enter its DUNS Contractor Establishment Number in the space provided on Standard Form 21, October 1965 Edition, Bid Form.

6. REPORTING REQUIREMENTS FOR CONSTRUCTION OVER \$10,000

- (a) Form CC-257--Monthly Employment Utilization Report. All prime Contractors and subcontractors performing work on federally-funded projects are required to complete Form CC-257, listing their aggregate work force in each trade, on all projects both federally- and nonfederally funded in the Plan Area. Each prime Contractor and subcontractor must also attach a listing of all projects (both federal and nonfederal in the Plan Area included herein). The accompanying list must provide the following information:

- (1) Name and location of project
- (2) Owner of project (city, county, private)
- (3) Project number, if any
- (4) Percent complete
- (5) Dollar amount of contract
- (6) Estimated date of completion.

Prime Contractors are responsible for collecting the Form CC-257 and the listing of all projects (both federal and nonfederal in excess of \$10,000) from each of his subcontractors performing work on this project. The prime Contractors will then forward their Form CC-257 and all of their subcontractor's Form CC-257 and project list information to:

Ms. Barbara Long
U.S. Department of Labor
1330 Broadway, Suite 550
Oakland, CA 94612

Failure to submit the Form CC-257 by the fifth day of each month constitutes noncompliance with Executive Order 11246. Noncompliance is grounds for the issuance of a legal Show Cause Notice for an informal hearing, authorized by (OFCCP) Rules and Regulations 41 CFR Part 60-1.7. Such a hearing could result in cancellation, termination or suspension of the contract.

(b) Reporting Subcontractors

The prime Contractor shall provide written notification to the Associate Regional Administrator of the Office of Federal Contract Compliance Programs, within 10 working days of award of any construction subcontract in excess of \$10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the following:

- (1) Name of Contractor
- (2) Address
- (3) Telephone number
- (4) Employer's identification number
- (5) Estimated dollar amount of subcontract
- (6) Estimated starting and completion dates
- (7) Geographical area in which the contract is to be performed; i.e., city, county, state, etc.

Send information to:

Mr. William Gladden
Associate Regional Administrator
Office of Federal Contract Compliance Programs--ESA
Department of Labor
450 Golden Gate Avenue, Room 11435
San Francisco, CA 94102

(c) EE0-1 Reporting Requirements

- (1) Each construction prime Contractor and first tier subcontractor who has 50 or more employees on total corporate or company payroll and signs a direct Federal or financially-assisted contract or subcontract amounting to \$50,000 or more, shall file annually in triplicate on or before the 31st day of March complete and accurate reports on Standard Form 100 (EE0-1) to the Joint Reporting Committee.
 - (2) Each Contractor or subcontractor required in paragraph 1 above shall submit an EE0-1 to the Joint Reporting Committee and shall also file an EE0-1 to the Office of Federal Contract Compliance Program, U.S. Department of Labor, 450 Golden Gate Avenue, Room 11435, San Francisco, CA 94102, within 30 days after award of such contract or subcontract as mentioned in paragraph 1 above, unless such Contractor or subcontractor has already submitted an EE0-1 report to the Joint Reporting Committee within 12 months preceding the date of award of an SCS Federal or Federally-assisted contract.
 - (3) Failure to file timely, complete and accurate reports as required in paragraphs 1 and 2 above constitute noncompliance with the Contractors' or subcontractors' obligations under Executive Order 11246, as amended and is grounds for the imposition by OFCCP of any sanctions authorized by Executive Order 11246 and other rules and regulations issued pursuant thereto.
- (d) Contractors and subcontractors may obtain EE0-1 reporting forms by writing to:

Joint Reporting Committee
2401 E Street N.W.
Washington, D.C. 20506

7. SUBCONTRACTING PROGRAM REQUIREMENTS

Prior to award, the successful low bidder, unless he is a small business concern, will submit to the Contracting Officer a subcontracting plan as specified in Special Provision 30.

After award, the prime contractor, unless he is a small business concern, will complete and submit to the Contracting Officer Forms SF-294, Subcontracting Report for Individual Contracts and SF-295, Summary Subcontract Report, as required by instructions on the forms. These forms will be furnished by the Government.

The subcontracting plan and reports are not required to be submitted if the prime contractor is a small business concern.

BID FORM (Construction Contract)		REFERENCE INVITATION NO. SCS-1-CA-8.
Read the instructions to Bidders (Standard Form 22). This form is to be submitted in		DATE OF INVITATION March 29, 1984
NAME AND LOCATION OF PROJECT Lower Llagas Creek Watershed, Reach 2B, located near the City of Gilroy, Santa Clara County, California	BIDDER'S NAME AND ADDRESS (Include ZIP Code) (Type or print)	
	TELEPHONE NUMBER (Include Area Code)	DATE

TO: Contracting Officer
USDA, Soil Conservation Service
2828 Chiles Rd.
Davis, CA 95616

In compliance with the above-dated invitation for bids, the undersigned hereby proposes to perform all work for construction of approximately 4700 feet of earth channel including three grouted rock riprap grade stabilization structures to stabilize the invert.

in strict accordance with the General Provisions (Standard Form 23-A), Labor Standards Provisions Applicable to Contracts in Excess of \$2,000 (Standard Form 19-A), specifications, schedules, drawings, and conditions, for the following amount(s)

TOTAL PRICE BID: \$ _____

DUNS CONTRACTOR ESTABLISHMENT NUMBER

The undersigned agrees that, upon written acceptance of this bid, mailed or otherwise furnished within calendar days (**calendar days unless a different period be inserted by the bidder) after the date of opening of bids, he will within 15 calendar days (unless a longer period is allowed) after receipt of the prescribed forms, execute Standard Form 23, Construction Contract, and give performance and payment bonds on Government standard forms with good and sufficient surety. The undersigned further agrees that, when reinsurance agreements are contemplated, all necessary reinsurance agreements will be on Government forms and will be executed and submitted with the bonds. However, when an additional period of days (not to exceed 45 calendar days) is authorized by the procuring activity, reinsurance agreements may be submitted within such period after the execution of the bond.

The undersigned agrees, if awarded the contract, to commence the work within 10 calendar days after the date of receipt of notice to proceed, and to complete the work within 200 calendar days after the date of receipt of notice to proceed.

****Bids acceptance period.** Bids offering less than 60 days for acceptance by the Government from the date set for opening will be considered nonresponsive and will be rejected.

RECEIPT OF AMENDMENTS: *The undersigned acknowledges receipt of the following amendments of the invitation for bids, drawings, and/or specifications, etc. (Give number and date of each):*

AMENDMENT NO.						
DATE						
AMENDMENT NO.						
DATE						

The representations and certifications on the accompanying STANDARD FORM 19-B are made a part of this bid.

ENCLOSED IS BID GUARANTEE, CONSISTING OF		IN THE AMOUNT OF
NAME OF BIDDER (Type or print)		FULL NAME OF ALL PARTNERS (Type or print)
BUSINESS ADDRESS (Type or print) (Include "ZIP Code")		
BY (Signature in ink. Type or print name under signature)		
TITLE (Type or print)		

DIRECTIONS FOR SUBMITTING BIDS: *Envelopes containing bids, guarantee, etc., must be sealed, marked, and addressed as follows:*

Contracting Officer
Soil Conservation Service
2828 Chiles Rd.
Davis, CA 95616

Invitation for Bids No. SCS-1-CA-84
for opening at 11:00 a.m., local time at
the place of bid opening, April 30, 1984.

REPRESENTATIONS AND CERTIFICATIONS

(Construction and Architect-Engineer Contract)

(For use with Standard Forms 19, 21 and 252)

REFERENCE (Enter same No.(s) as on SF 19, 21 and 252)

INVITATION NO. SCS-1-CA-84

NAME AND ADDRESS OF BIDDER (No., Street, City, State, and ZIP Code)

DATE OF BID

In negotiated procurements, "bid" and "bidder" shall be construed to mean "offer" and "offeror."

The bidder makes the following representations and certifications as a part of the bid identified above. (Check appropriate boxes.)

1. SMALL BUSINESS

He ☐ is, ☐ is not, a small business concern. (A small business concern for the purpose of Government procurement is a concern, including its affiliates, which is independently owned and operated, is not dominant in the field of operations in which it is bidding on Government contracts, and can further qualify under the criteria concerning number of employees, average annual receipts, or other criteria as prescribed by the Small Business Administration. For additional information see governing regulations of the Small Business Administration (13 CFR Part 121)).

2. MINORITY BUSINESS ENTERPRISE

He ☐ is, ☐ is not a minority business enterprise. A minority business enterprise is defined as a "business, at least 50 percent of which is owned by minority group members or, in case of publicly owned businesses, at least 51 percent of the stock of which is owned by minority group members." For the purpose of this definition, minority group member are Negroes, Spanish-speaking American persons, American-Orientals, American-Indians, American-Eskimos, and American Aleuts."

3. CONTINGENT FEE

(a) He ☐ has, ☐ has not, employed or retained any company or person (other than a full-time bona fide employee working solely for the bidder) to solicit or secure this contract, and (b) he ☐ has, ☐ has not, paid or agreed to pay any company or person (other than a full-time bona fide employee working solely for the bidder) any fee, commission, percentage or brokerage fee, contingent upon or resulting from the award of this contract; and agrees to furnish information relating to (a) and (b) above as requested by the Contracting Officer. (For interpretation of the representation, including the term "bona fide employee," see Code of Federal Regulations, Title 41, Subpart 1-1.5.)

4. TYPE OF ORGANIZATION

He operates as an ☐ individual, ☐ partnership, ☐ joint venture, ☐ corporation, incorporated in State of

5. INDEPENDENT PRICE DETERMINATION

(a) By submission of this bid, each bidder certifies, and in the case of a joint bid each party thereto certifies as to his own organization, that in connection with this procurement:

(1) The prices in this bid have been arrived at independently, without consultation, communication, or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other bidder or with any competitor;

(2) Unless otherwise required by law, the prices which have been quoted in this bid have not been knowingly disclosed by the bidder and will not knowingly be disclosed by the bidder prior to opening, in the case of a bid, or prior to award, in the case of a proposal, directly or indirectly to any other bidder or to any competitor; and

(3) No attempt has been made or will be made by the bidder to induce any other person or firm to submit or not to submit a bid for the purpose of restricting competition.

(b) Each person signing this bid certifies that:

(1) He is the person in the bidder's organization responsible within that organization for the decision as to the prices being bid herein and that he has not participated, and will not participate, in any action contrary to (a)(1) through (a)(3) above; or

(2) (i) He is not the person in the bidder's organization responsible within that organization for the decision as to the prices being bid herein but that he has been authorized in writing to act as agent for the persons responsible for such decision in certifying that such persons have not participated, and will not participate, in any action contrary to (a)(1) through (a)(3) above, and as their agent does hereby so certify; and (ii) he has not participated, and will not participate, in any action contrary to (a)(1) through (a)(3) above.

(c) This certification is not applicable to a foreign bidder submitting a bid for a contract which requires performance or delivery outside the United States, its possessions, and Puerto Rico.

(d) A bid will not be considered for award where (a)(1), (a)(3), or (b) above, has been deleted or modified. Where (a)(2) above, has been deleted or modified, the bid will not be considered for award unless the bidder furnishes with the bid a signed statement which sets forth in detail the circumstances of the disclosure and the head of the agency, or his designee, determines that such disclosure was not made for the purpose of restricting competition.

NOTE.—Bids must set forth full, accurate, and complete information as required by this invitation for bids (including attachments). The penalty for making false statements in bids is prescribed in 18 U.S.C. 1001.

THE FOLLOWING NEED BE CHECKED ONLY IF BID EXCEEDS \$10,000 IN AMOUNT.

6. EQUAL OPPORTUNITY

He ☐ has, ☐ has not, participated in a previous contract or subcontract to the Equal Opportunity Clause herein, the clause originally contained in Section 301 of Executive Order No. 10925, or the clause contained in Section 201 of Executive Order No. 11114; he ☐ has, ☐ has not, filed all required compliance reports; and representations indicating submission of required compliance reports, signed by proposed subcontractors, will be obtained prior to subcontract awards.

(The above representations need not be submitted in connection with contracts or subcontracts which are exempt from the equal opportunity clause.)

7. PARENT COMPANY AND EMPLOYER IDENTIFICATION NUMBER

Each bidder shall furnish the following information by filling in the appropriate blocks:

(a) Is the bidder owned or controlled by a parent company as described below? ☐ Yes ☐ No. (For the purpose of this bid, a parent company is defined as one which either owns or controls the activities and basic business policies of the bidder. To own another company means the parent company must own at least a majority (more than 50 percent) of the voting rights in that company. To control another company, such ownership is not required; if another company is able to formulate, determine, or veto basic business policy decisions of the bidder, such other company is considered the parent company of the bidder. This control may be exercised through the use of dominant minority voting rights, use of proxy voting, contractual arrangements, or otherwise.)

(b) If the answer to (a) above is "Yes," bidder shall insert in the space below the name and main office address of the parent company.

NAME OF PARENT COMPANY	MAIN OFFICE ADDRESS (No., Street, City, State, and ZIP Code)

(c) Bidder shall insert in the applicable space below, if he has no parent company, his own Employer's Identification Number (E.I. No.) (Federal Social Security Number used on Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941), or, if he has a parent company, the E.I. No. of his parent company.

EMPLOYER IDENTIFICATION NUMBER OF		PARENT COMPANY	BIDDER
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8. CERTIFICATION OF NONSEGREGATED FACILITIES

(Applicable to (1) contracts, (2) subcontracts, and (3) agreements with applicants who are themselves performing federally assisted construction contracts, exceeding \$10,000 which are not exempt from the provisions of the Equal Opportunity clause.)

By the submission of this bid, the bidder, offeror, applicant, or subcontractor certifies that he does not maintain or provide for his employees any segregated facilities at any of his establishments, and that he does not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. He certifies further that he will not maintain or provide for his employees any segregated facilities at any of his establishments, and that he will not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. The bidder, offeror, applicant, or subcontractor agrees that a breach of this certification is a violation of the Equal Opportunity clause in this contract. As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, rest rooms and wash rooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive or are in fact segregated on the basis of race, color, religion, or national origin, because of habit, local custom, or otherwise. He further agrees that (except where he has obtained identical certifications from proposed subcontractors for specific time periods) he will obtain identical certifications from proposed subcontractors prior to the award of subcontracts exceeding \$10,000 which are not exempt from the provisions of the Equal Opportunity clause; that he will retain such certifications in his files; and that he will forward the following notice to such proposed subcontractors (except where the proposed subcontractors have submitted identical certifications for specific time periods):

NOTICE TO PROSPECTIVE SUBCONTRACTORS OF REQUIREMENT FOR CERTIFICATIONS OF NONSEGREGATED FACILITIES

A Certification of Nonsegregated Facilities must be submitted prior to the award of a subcontract exceeding \$10,000 which is not exempt from the provisions of the Equal Opportunity clause. The certification may be submitted either for each subcontract or for all subcontracts during a period (i.e., quarterly, semiannually, or annually).

NOTE: The penalty for making false statements in offers is prescribed in 18 U.S.C. 1001.

9. CLEAN AIR AND WATER

(Applicable if the bid or offer exceeds \$100,000, or the contracting officer has determined that orders under an indefinite quantity contract in any year will exceed \$100,000, or a facility to be used has been the subject of a conviction under the Clean Air Act (42 U.S.C. 1857c-8(c)(1)) or the Federal Water Pollution Control Act (33 U.S.C. 1319(c)) and is listed by EPA, or is not otherwise exempt.)

The bidder or offeror certifies as follows:

(a) Any facility to be utilized in the performance of this proposed contract has ☐, has not ☐, been listed on the Environmental Protection Agency List of Violating Facilities.

(b) He will promptly notify the contracting officer, prior to award, of the receipt of any communication from the Director, Office of Federal Activities, Environmental Protection Agency, indicating that any facility which he proposes to use for the performance of the contract is under consideration to be listed on the EPA List of Violating Facilities.

(c) He will include substantially this certification, including this paragraph (c), in every nonexempt subcontract.

REPRESENTATIONS AND CERTIFICATIONS, Continued

10. The bidder shall complete the following representation for all bids which exceed \$10,000:

WOMAN-OWNED BUSINESS

Concern is _____ is not _____ a woman-owned business.

A woman-owned business is a business which is, at least, 51 percent owned, controlled, and operated by a woman or women. Controlled is defined as exercising the power to make policy decisions. Operated is defined as actively involved in the day-to-day management.

For the purposes of this definition, businesses which are publicly owned, joint stock associations, and business trusts are exempted. Exempted businesses may voluntarily represent that they are, or are not, woman-owned if this information is available.

11. The bidder shall complete the following representation for all bids which exceed \$10,000:

PERCENT OF FOREIGN CONTENT

The offeror/contractor will represent (as an estimate), immediately after the award of a contract, the percent of the foreign content of item or service being procured expressed as a percent of the contract award price (accuracy within plus or minus 5 percent is acceptable).

12. By the submission of this bid, each bidder certifies that he understands and agrees to be bound by the equal opportunity requirements Executive Order 11246, US Department of Labor (OFCCP) Regulations Part 41 CFR 60-1.4 and 60-4. All of which shall be applicable throughout the performance of work under this contract and all other projects both federally-funded and privately-funded projects in excess of \$10,000. Each bidder agrees that, if awarded this contract, the bidder will include in each subcontract all of the foregoing policies and regulations.

BID SCHEDULE
LLAGAS CREEK REACH 2B

ITEM NO.	WORK OR MATERIAL	SPEC. NO.	ESTIMATED QUANTITY	UNIT	UNIT PRICE	AMOUNT
1.	Mobilization	8	JOB	L.S.	XXXXX	\$ _____
2.	Clearing & Grubbing	2	JOB	L.S.	XXXXX	\$ _____
3.	Structure Removal	3	JOB	L.S.	XXXXX	\$ _____
4.	Pollution Control	5	JOB	L.S.	XXXXX	\$ _____
5.	Removal of Water	11	JOB	L.S.	XXXXX	\$ _____
6.	Excavation, Common	21	124,500	C.Y.	\$ _____	\$ _____
7.	Stockpile Material	21	355,000	C.Y.	\$ _____	\$ _____
8.	Earth Fill	23	40,400	C.Y.	\$ _____	\$ _____
9.	Filter Material	24	2,600	C.Y.	\$ _____	\$ _____
10.	Bedding Material	24	1,300	C.Y.	\$ _____	\$ _____
11.	Loose Rock Riprap	61	33,400	TON	\$ _____	\$ _____
12.	Grouted Rock Riprap	62	16,100	TON	\$ _____	\$ _____
13.	Grout	62	2,700	C.Y.	\$ _____	\$ _____
14.	Metal Plates	81	12	EACH	\$ _____	\$ _____
15.	T.C.E. Subsoiling	6	1.3	ACRE	\$ _____	\$ _____
16.	Vegetative Cover	6	24	ACRE	\$ _____	\$ _____
17.	Willow Cuttings	400	1,770	L.F.	\$ _____	\$ _____
18.	Road Pavement	401	2,000	S.Y.	\$ _____	\$ _____
19.	Public Safety	402	JOB	L.S.	XXXXX	\$ _____
20.	18-Inch CMP	51	160	L.F.	\$ _____	\$ _____
21.	30-Inch CMP	51	95	L.F.	\$ _____	\$ _____
TOTAL						\$ _____

GENERAL PROVISIONS

(Construction Contract)

1. DEFINITIONS

(a) The term "head of the agency" or "Secretary" as used herein means the Secretary, the Under Secretary, any Assistant Secretary, or any other head or assistant head of the executive or military department or other Federal agency; and the term "his duly authorized representative" means any person or persons or board (other than the Contracting Officer) authorized to act for the head of the agency or the Secretary.

(b) The term "Contracting Officer" as used herein means the person executing this contract on behalf of the Government and includes a duly appointed successor or authorized representative.

2. SPECIFICATIONS AND DRAWINGS

The Contractor shall keep on the work a copy of the drawings and specifications and shall at all times give the Contracting Officer access thereto. Anything mentioned in the specifications and not shown on the drawings, or shown on the drawings and not mentioned in the specifications, shall be of like effect as if shown or mentioned in both. In case of difference between drawings and specifications, the specifications shall govern. In case of discrepancy either in the figures, in the drawings, or in the specifications, the matter shall be promptly submitted to the Contracting Officer, who shall promptly make a determination in writing. Any adjustment by the Contractor without such a determination shall be at his own risk and expense. The Contracting Officer shall furnish from time to time such detail drawings and other information as he may consider necessary, unless otherwise provided.

3. CHANGES

(a) The Contracting Officer may, at any time, without notice to the sureties, by written order designated or indicated to be a change order, make any change in the work within the general scope of the contract, including but not limited to changes:

(1) In the specifications (including drawings and designs);

(2) In the method or manner of performance of the work;

(3) In the Government-furnished facilities, equipment, materials, services, or site; or

(4) Directing acceleration in the performance of the work.

(b) Any other written order or an oral order (which terms as used in this paragraph (b) shall include direction, instruction, interpretation, or determination) from the Contracting Officer, which causes any such change, shall be treated as a change order under this clause, provided that the Contractor gives the Contracting Officer written notice stating the date, circumstances, and source of the order and that the Contractor regards the order as a change order.

(c) Except as herein provided, no order, statement, or conduct of the Contracting Officer shall be treated as a change under this clause or entitle the Contractor to an equitable adjustment hereunder.

(d) If any change under this clause causes an increase or decrease in the Contractor's cost of, or the time required for, the performance of any part of the work under this contract, whether or not changed by any order, an equitable adjustment shall be made and the contract modified in writing accordingly: *Provided, however*, That except for claims based on defective specifications, no claim for any change under (b) above shall be allowed for any costs incurred more than 20 days before the Contractor gives written notice as therein required: *And provided further*, That in the case of defective specifications for which the Government is responsible, the equitable adjustment shall include any increased cost reasonably incurred by the Contractor in attempting to comply with such defective specifications.

(e) If the Contractor intends to assert a claim for an equitable adjustment under this clause, he must, within 30 days after receipt of a written change order under (a) above or the furnishing of a written notice under (b) above, submit to the Contracting Officer a written statement setting forth the general nature and monetary extent of such claim,

unless this period is extended by the Government. The statement of claim hereunder may be included in the notice under (b) above.

(f) No claim by the Contractor for an equitable adjustment hereunder shall be allowed if asserted after final payment under this contract.

4. DIFFERING SITE CONDITIONS

(a) The Contractor shall promptly, and before such conditions are disturbed, notify the Contracting Officer in writing of: (1) Subsurface or latent physical conditions at the site differing materially from those indicated in this contract, or (2) unknown physical conditions at the site, of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inhering in work of the character provided for in this contract. The Contracting Officer shall promptly investigate the conditions, and if he finds that such conditions do materially so differ and cause an increase or decrease in the Contractor's cost of, or the time required for, performance of any part of the work under this contract, whether or not changed as a result of such conditions, an equitable adjustment shall be made and the contract modified in writing accordingly.

(b) No claim of the Contractor under this clause shall be allowed unless the Contractor has given the notice required in (a) above; provided, however, the time prescribed therefor may be extended by the Government.

(c) No claim by the Contractor for an equitable adjustment hereunder shall be allowed if asserted after final payment under this contract.

5. TERMINATION FOR DEFAULT—DAMAGES FOR DELAY—TIME EXTENSIONS

(a) If the Contractor refuses or fails to prosecute the work, or any separable part thereof, with such diligence as will insure its completion within the time specified in this contract, or any extension thereof, or fails to complete said work within such time, the Government may, by written notice to the Contractor, terminate his right to proceed with the work or such part of the work as to which there has been delay. In such event the Government may take over the work and prosecute the same to completion, by contract or otherwise, and may take possession of and utilize in completing the work such materials, appliances, and plant as may be on the site of the work and necessary therefor. Whether or not the Contractor's right to proceed with the work is terminated, he and his sureties shall be liable for any damage to the Government resulting from his refusal or failure to complete the work within the specified time.

(b) If fixed and agreed liquidated damages are provided in the contract and if the Government so terminates the Contractor's right to proceed, the resulting damage will consist of such liquidated damages until such reasonable time as may be required for final completion of the work together with any increased costs occasioned the Government in completing the work.

(c) If fixed and agreed liquidated damages are provided in the contract and if the Government does not so terminate the Contractor's right to proceed, the resulting damage will consist of such liquidated damages until the work is completed or accepted.

(d) The Contractor's right to proceed shall not be so terminated nor the Contractor charged with resulting damage if:

(1) The delay in the completion of the work arises from unforeseeable causes beyond the control and without the fault or negligence of the Contractor, including but not restricted to, acts of God, acts of the public enemy, acts of the Government in either its sovereign or contractual capacity, acts of another contractor in the performance of a contract with the Government, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, unusually severe weather, or delays of subcontractors or suppliers arising from unforeseeable causes beyond the control and without the fault or negligence of both the Contractor and such subcontractors or suppliers; and

(2) The Contractor, within 10 days from the beginning of any such delay (unless the Contracting Officer grants a further period of time before the date of final payment

under the contract), notifies the Contracting Officer in writing of the causes of delay.

The Contracting Officer shall ascertain the facts and the extent of the delay and extend the time for completing the work when, in his judgment, the findings of fact justify such an extension, and his findings of fact shall be final and conclusive on the parties, subject only to appeal as provided in Clause 6 of these General Provisions.

(e) If, after notice of termination of the Contractor's right to proceed under the provisions of this clause, it is determined for any reason that the Contractor was not in default under the provisions of this clause, or that the delay was excusable under the provisions of this clause, the rights and obligations of the parties shall, if the contract contains a clause providing for termination for convenience of the Government, be the same as if the notice of termination had been issued pursuant to such clause. If, in the foregoing circumstances, this contract does not contain a clause providing for termination for convenience of the Government, the contract shall be equitably adjusted to compensate for such termination and the contract modified accordingly; failure to agree to any such adjustment shall be a dispute concerning a question of fact within the meaning of the clause of this contract entitled "Disputes."

(f) The rights and remedies of the Government provided in this clause are in addition to any other rights and remedies provided by law or under this contract.

(g) As used in Paragraph (d) (1) of this clause, the term "subcontractors or suppliers" means subcontractors or suppliers at any tier.

DISPUTES

(a) Except as otherwise provided in this contract, any dispute concerning a question of fact arising under this contract which is not disposed of by agreement shall be decided by the Contracting Officer, who shall reduce his decision to writing and mail or otherwise furnish a copy thereof to the Contractor. The decision of the Contracting Officer shall be final and conclusive unless, within 30 days from the date of receipt of such copy, the Contractor mails or otherwise furnishes to the Contracting Officer a written appeal addressed to the head of the agency involved. The decision of the head of the agency or his duly authorized representative for the determination of such appeals shall be final and conclusive. This provision shall not be pleaded in any suit involving a question of fact arising under this contract and no judicial review of any such decision to cases where fraud by such official or his representative or board is alleged. *Provided, however,* That any such decision shall be final and conclusive unless the same is fraudulent or capricious or arbitrary or so grossly erroneous as necessarily to imply bad faith or is not supported by substantial evidence. In connection with any appeal proceeding under this clause, the Contractor shall be afforded an opportunity to be heard and to offer evidence in support of his appeal. Pending final decision of a dispute hereunder, the Contractor shall proceed diligently with the performance of the contract and in accordance with the Contracting Officer's decision.

(b) This Disputes clause does not preclude consideration of questions of law in connection with decisions provided for in paragraph (a) above. Nothing in this contract, however, shall be construed as making final the decision of any administrative official, representative, or board on a question of law.

PAYMENTS TO CONTRACTOR

(a) The Government will pay the contract price as herein-after provided.

(b) The Government will make progress payments monthly as the work proceeds, or at more frequent intervals as determined by the Contracting Officer, on estimates approved by the Contracting Officer. If requested by the Contracting Officer, the Contractor shall furnish a breakdown of the total contract price showing the amount included therein for each principal category of the work, in such detail as requested, to provide a basis for determining progress payments. In the preparation of estimates the Contracting Officer, at his discretion, may authorize material delivered on the site and preparatory work done to be taken into consideration. Material delivered to the Contractor at locations other than the site may also be taken into consideration. (1) if such consideration is specifically authorized by the contract and (2) if the Contractor furnishes satisfactory evidence that he has acquired title to such material and that it will be utilized on the work covered by this contract.

(c) In making such progress payments, there shall be retained 10 percent of the estimated amount until final com-

pletion and acceptance of the contract work. However, if the Contracting Officer, at any time after 50 percent of the work has been completed, finds that satisfactory progress is being made, he may authorize payment in full of each progress payment for work performed beyond the 50 percent stage of completion. Also, whenever the work is substantially complete, the Contracting Officer, if he considers the amount retained to be in excess of the amount adequate for the protection of the Government, at his discretion, may release to the Contractor all or a portion of such excess amount. Furthermore, on completion and acceptance of each separate building, public work, or other division of the contract, on which the price is stated separately in the contract, payment may be made therefor without retention of a percentage.

(d) All material and work covered by progress payments made shall thereupon become the sole property of the Government, but this provision shall not be construed as relieving the Contractor from the sole responsibility for all material and work upon which payments have been made or the restoration of any damaged work, or as waiving the right of the Government to require the fulfillment of all of the terms of the contract.

(e) Upon completion and acceptance of all work, the amount due the Contractor under this contract shall be paid upon the presentation of a properly executed voucher and after the Contractor shall have furnished the Government with a release of all claims against the Government arising by virtue of this contract, other than claims in stated amounts as may be specifically excepted by the Contractor from the operation of the release. If the Contractor's claim to amounts payable under the contract has been assigned under the Assignment of Claims Act of 1940, as amended (31 U.S.C. 203, 41 U.S.C. 15), a release may also be required of the assignee.

8. ASSIGNMENT OF CLAIMS

(a) Pursuant to the provisions of the Assignment of Claims Act of 1940, as amended (31 U.S.C. 203, 41 U.S.C. 15), if this contract provides for payments aggregating \$1,000 or more, claims for moneys due or to become due the Contractor from the Government under this contract may be assigned to a bank, trust company, or other financing institution, including any Federal lending agency, and may thereafter be further assigned and reassigned to any such institution. Any such assignment or reassignment shall cover all amounts payable under this contract and not already paid, and shall not be made to more than one party, except that any such assignment or reassignment may be made to one party as agent or trustee for two or more parties participating in such financing. Unless otherwise provided in this contract, payments to an assignee of any moneys due or to become due under this contract shall not, to the extent provided in said Act, as amended, be subject to reduction or setoff. (The preceding sentence applies only if this contract is made in time of war or national emergency as defined in said Act; and is with the Department of Defense, the General Services Administration, the Energy Research and Development Administration, the National Aeronautics and Space Administration, the Federal Aviation Administration, or any other department or agency of the United States designated by the President pursuant to Clause 4 of the proviso of section 1 of the Assignment of Claims Act of 1940, as amended by the Act of May 15, 1951, 65 Stat. 41.)

(b) In no event shall copies of this contract or of any plans, specifications, or other similar documents relating to work under this contract, if marked "Top Secret," "Secret," or "Confidential," be furnished to any assignee of any claim arising under this contract or to any other person not entitled to receive the same. However, a copy of any part or all of this contract so marked may be furnished, or any information contained therein may be disclosed, to such assignee upon the prior written authorization of the Contracting Officer.

9. MATERIAL AND WORKMANSHIP

(a) Unless otherwise specifically provided in this contract, all equipment, material, and articles incorporated in the work covered by this contract are to be new and of the most suitable grade for the purpose intended. Unless otherwise specifically provided in this contract, reference to any equipment, material, article, or patented process, by trade name, make, or catalog number, shall be regarded as establishing a standard of quality and shall not be construed as limiting competition, and the Contractor may, at his option, use any equipment, material, article, or process, which, in the judgment of the Contracting Officer, is equal to that named. The Contractor shall furnish to the Contracting Officer for his approval the name of the manufacturer, the model number,

and other identifying data and information respecting the performance, capacity, nature, and rating of the machinery and mechanical and other equipment which the Contractor contemplates incorporating in the work. When required by this contract or when called for by the Contracting Officer, the Contractor shall furnish the Contracting Officer for approval full information concerning the material or articles which he contemplates incorporating in the work. When so directed, samples shall be submitted for approval at the Contractor's expense, with all shipping charges prepaid. Machinery, equipment, material, and articles installed or used without required approval shall be at the risk of subsequent rejection.

(b) All work under this contract shall be performed in a skillful and workmanlike manner. The Contracting Officer may, in writing, require the Contractor to remove from the work any employee the Contracting Officer deems incompetent, careless or otherwise objectionable.

10. INSPECTION AND ACCEPTANCE

(a) All work (which term includes but is not restricted to materials, workmanship, and manufacture and fabrication of components) shall be subject to inspection and test by the Government at all reasonable times and at all places prior to acceptance. Any such inspection and test is for the sole benefit of the Government and shall not relieve the Contractor of the responsibility of providing quality control measures to assure that the work strictly complies with the contract requirements. No inspection or test by the Government shall be construed as constituting or implying acceptance. Inspection or test shall not relieve the Contractor of responsibility for damage to or loss of the material prior to acceptance, nor in any way affect the continuing rights of the Government after acceptance of the completed work under the terms of paragraph (f) of this clause, except as hereinabove provided.

(b) The Contractor shall, without charge, replace any material or correct any workmanship found by the Government not to conform to the contract requirements, unless in the public interest the Government consents to accept such material or workmanship with an appropriate adjustment in contract price. The Contractor shall promptly segregate and remove rejected material from the premises.

(c) If the Contractor does not promptly replace rejected material or correct rejected workmanship, the Government (1) may, by contract or otherwise, replace such material or correct such workmanship and charge the cost thereof to the Contractor, or (2) may terminate the Contractor's right to proceed in accordance with the clause of this contract entitled "Termination for Default—Damages for Delay—Time Extensions."

(d) The Contractor shall furnish promptly, without additional charge, all facilities, labor, and material reasonably needed for performing such safe and convenient inspection and test as may be required by the Contracting Officer. All inspection and test by the Government shall be performed in such manner as not unnecessarily to delay the work. Special, full size, and performance tests shall be performed as described in this contract. The Government reserves the right to charge to the Contractor any additional cost of inspection or test when material or workmanship is not ready at the time specified by the Contractor for inspection or test or when reinspection or retest is necessitated by prior rejection.

(e) Should it be considered necessary or advisable by the Government at any time before acceptance of the entire work to make an examination of work already completed, by removing or tearing out same, the Contractor shall, on request, promptly furnish all necessary facilities, labor, and material. If such work is found to be defective or nonconforming in any material respect, due to the fault of the Contractor or his subcontractors, he shall defray all the expenses of such examination and of satisfactory reconstruction. If, however, such work is found to meet the requirements of the contract, an equitable adjustment shall be made in the contract price to compensate the Contractor for the additional services involved in such examination and reconstruction and, if completion of the work has been delayed thereby, he shall, in addition, be granted a suitable extension of time.

(f) Unless otherwise provided in this contract, acceptance by the Government shall be made as promptly as practicable after completion and inspection of all work required by this contract, or that portion of the work that the Contracting Officer determines can be accepted separately. Acceptance shall be final and conclusive except as regards latent defects, fraud, or such gross mistakes as may amount to fraud, or as regards the Government's rights under any warranty or guarantee.

11. SUPERINTENDENCE BY CONTRACTOR

The Contractor, at all times during performance and until the work is completed and accepted, shall give his personal superintendence to the work or have on the work a competent superintendent, satisfactory to the Contracting Officer and with authority to act for the Contractor.

12. PERMITS AND RESPONSIBILITIES

The Contractor shall, without additional expense to the Government, be responsible for obtaining any necessary licenses and permits, and for complying with any applicable Federal, State, and municipal laws, codes, and regulations, in connection with the prosecution of the work. He shall be similarly responsible for all damages to persons or property that occur as a result of his fault or negligence. He shall take proper safety and health precautions to protect the work, the workers, the public, and the property of others. He shall also be responsible for all materials delivered and work performed until completion and acceptance of the entire construction work, except for any completed unit of construction thereof which theretofore may have been accepted.

13. CONDITIONS AFFECTING THE WORK

The Contractor shall be responsible for having taken steps reasonably necessary to ascertain the nature and location of the work, and the general and local conditions which can affect the work or the cost thereof. Any failure by the Contractor to do so will not relieve him from responsibility for successfully performing the work without additional expense to the Government. The Government assumes no responsibility for any understanding or representations concerning conditions made by any of its officers or agents prior to the execution of this contract, unless such understanding or representations by the Government are expressly stated in the contract.

14. OTHER CONTRACTS

The Government may undertake or award other contracts for additional work, and the Contractor shall fully cooperate with such other contractors and Government employees and carefully fit his own work to such additional work as may be directed by the Contracting Officer. The Contractor shall not commit or permit any act which will interfere with the performance of work by any other contractor or by Government employees.

15. SHOP DRAWINGS

(a) The term "shop drawings" includes drawings, diagrams, layouts, schematics, descriptive literature, illustrations, schedules, performance and test data, and similar materials furnished by the Contractor to explain in detail specific portions of the work required by the contract.

(b) If this contract requires shop drawings, the Contractor shall coordinate all such drawings, and review them for accuracy, completeness, and compliance with contract requirements and shall indicate his approval thereon as evidence of such coordination and review. Shop drawings submitted to the Contracting Officer without evidence of the Contractor's approval may be returned for resubmission. The Contracting Officer will indicate his approval or disapproval of the shop drawings and if not approved as submitted shall indicate his reasons therefor. Any work done prior to such approval shall be at the Contractor's risk. Approval by the Contracting Officer shall not relieve the Contractor from responsibility for any errors or omissions in such drawings, nor from responsibility for complying with the requirements of this contract, except with respect to variations described and approved in accordance with (c) below.

(c) If shop drawings show variations from the contract requirements, the Contractor shall describe such variations in writing, separate from the drawings, at the time of submission. If the Contracting Officer approves any such variation(s), he shall issue an appropriate contract modification, except that, if the variation is minor and does not involve a change in price or in time of performance, a modification need not be issued.

16. USE AND POSSESSION PRIOR TO COMPLETION

The Government shall have the right to take possession of or use any completed or partially completed part of the work. Prior to such possession or use, the Contracting Officer shall furnish the Contractor an itemized list of work remaining to be performed or corrected on such portions of the project as are to be possessed or used by the Government, provided that failure to list any item of work shall not relieve the Contractor of responsibility for compliance with the terms of the

contract. Such possession or use shall not be deemed an acceptance of any work under the contract. While the Government has such possession or use, the Contractor, notwithstanding the provisions of the clause of this contract entitled "Permits and Responsibilities," shall be relieved of the responsibility for the loss or damage to the work resulting from the Government's possession or use. If such prior possession or use by the Government delays the progress of the work or causes additional expense to the Contractor, an equitable adjustment in the contract price or the time of completion will be made and the contract shall be modified in writing accordingly.

17. SUSPENSION OF WORK

(a) The Contracting Officer may order the Contractor in writing to suspend, delay, or interrupt all or any part of the work for such period of time as he may determine to be appropriate for the convenience of the Government.

(b) If the performance of all or any part of the work is, for an unreasonable period of time, suspended, delayed, or interrupted by an act of the Contracting Officer in the administration of this contract, or by his failure to act within the time specified in this contract (or if no time is specified, within a reasonable time), an adjustment shall be made for any increase in the cost of performance of this contract (excluding profit) necessarily caused by such unreasonable suspension, delay, or interruption and the contract modified in writing accordingly. However, no adjustment shall be made under this clause for any suspension, delay, or interruption to the extent (1) that performance would have been so suspended, delayed, or interrupted by any other cause, including the fault or negligence of the Contractor or (2) for which an equitable adjustment is provided for or excluded under any other provision of this contract.

(c) No claim under this clause shall be allowed (1) for any costs incurred more than 20 days before the Contractor shall have notified the Contracting Officer in writing of the act or failure to act involved (but this requirement shall not apply as to a claim resulting from a suspension order), and (2) unless the claim, in an amount stated, is asserted in writing as soon as practicable after the termination of such suspension, delay, or interruption, but not later than the date of final payment under the contract.

18. TERMINATION FOR CONVENIENCE OF THE GOVERNMENT

If not physically incorporated elsewhere, the clause in Section 1-8.703 of the Federal Procurement Regulations, or paragraph 7-602.29(a) of the Armed Services Procurement Regulation, as applicable, in effect on the date of this contract is hereby incorporated by reference as fully as if set forth at length herein.

19. PAYMENT OF INTEREST ON CONTRACTORS' CLAIMS

(a) If an appeal is filed by the Contractor from a final decision of the Contracting Officer under the Disputes clause of this contract, denying a claim arising under the contract, simple interest on the amount of the claim finally determined owed by the Government shall be payable to the Contractor. Such interest shall be at the rate determined by the Secretary of the Treasury pursuant to Public Law 92-41, 85 Stat. 97, from the date the Contractor furnishes to the Contracting Officer his written appeal under the Disputes clause of this contract, to the date of (1) a final judgment by a court of competent jurisdiction, or (2) a final decision of the Contractor of a supplemental agreement for settlement, either confirming completed negotiations between the parties or carrying out a decision of a board of contract appeals.

(b) Notwithstanding (a) above, (1) interest shall be applied only from the date payment was due, if such date is later than the filing of appeal; and (2) interest shall not be paid for any period of time that the Contracting Officer determines the Contractor has unduly delayed in pursuing his remedies before a board of contract appeals or a court of competent jurisdiction.

20. PRICING OF ADJUSTMENTS

When costs are a factor in any determination of a contract price adjustment pursuant to the Changes clause or any other provision of this contract, such costs shall be in accordance with the contract cost principles and procedures in Part 1-15 of the Federal Procurement Regulations, (41 CFR 1-15) or Section XV of the Armed Services Procurement Regulation, as applicable, which are in effect on the date of this contract.

21. PATENT INDEMNITY

Except as otherwise provided, the Contractor agrees to indemnify the Government and its officers, agents, and em-

ployees against liability, including costs and expenses, for infringement upon any Letters Patent of the United States (except Letters Patent issued upon an application which is now or may hereafter be, for reasons of national security, ordered by the Government to be kept secret or otherwise withheld from issue) arising out of the performance of this contract or out of the use or disposal by or for the account of the Government of supplies furnished or construction work performed hereunder.

22. ADDITIONAL BOND SECURITY

If any surety upon any bond furnished in connection with this contract becomes unacceptable to the Government, or if any such surety fails to furnish reports as to his financial condition from time to time as requested by the Government, or if the contract price is increased to such an extent that the penal sum of any bond becomes inadequate in the opinion of the Contracting Officer, the Contractor shall promptly furnish such additional security as may be required from time to time to protect the interests of the Government and of persons supplying labor or materials in the prosecution of the work contemplated by this contract.

23. EXAMINATION OF RECORDS BY COMPTROLLER GENERAL

(a) This clause is applicable if the amount of this contract exceeds \$10,000 and was entered into by means of negotiation, including small business restricted advertising, but is not applicable if this contract was entered into by means of formal advertising.

(b) The contractor agrees that the Comptroller General of the United States or any of his duly authorized representatives shall, until the expiration of 3 years after final payment under this contract or such lesser time specified in either Appendix M of the Armed Services Procurement Regulation or the Federal Procurement Regulations Part 1-20, as appropriate, have access to and the right to examine any directly pertinent books, documents, papers, and records of the contractor involving transactions related to this contract.

(c) The Contractor further agrees to include in all his subcontracts hereunder a provision to the effect that the subcontractor agrees that the Comptroller General of the United States or any of his duly authorized representatives shall, until the expiration of 3 years after final payment under the subcontract or such lesser time specified in either Appendix M of the Armed Services Procurement Regulation or the Federal Procurement Regulations Part 1-20, as appropriate, have access to and the right to examine any directly pertinent books, documents, papers, and records of such subcontractor, involving transactions related to the subcontract. The term "subcontract" as used in this clause excludes (1) purchase orders not exceeding \$10,000 and (2) subcontracts or purchase orders for public utility services at rates established for uniform applicability to the general public.

(d) The periods of access and examination described in (b) and (c), above, for records which relate to (1) appeals under the "Disputes" clause of this contract, (2) litigation or the settlement of claims arising out of the performance of this contract, or (3) costs and expenses of this contract as to which exception has been taken by the Comptroller General or any of his duly authorized representatives, shall continue until such appeals, litigation, claims, or exceptions have been disposed of.

24. BUY AMERICAN

(a) *Agreement.* In accordance with the Buy American Act (41 U.S.C. 10a-10d), and Executive Order 10582, December 17, 1954 (3 CFR, 1954-58 Comp., p. 230), as amended by Executive Order 11051, September 27, 1962 (3 CFR, 1959-63 Comp., p. 635), the Contractor agrees that only domestic construction material will be used (by the Contractor, subcontractors, materialmen, and suppliers) in the performance of this contract, except for nondomestic material listed in the contract.

(b) *Domestic construction material.* "Construction material" means any article, material, or supply brought to the construction site for incorporation in the building or work. An unmanufactured construction material is a "domestic construction material" if it has been mined or produced in the United States. A manufactured construction material is a "domestic construction material" if it has been manufactured in the United States and if the cost of its components which have been mined, produced, or manufactured in the United States exceeds 50 percent of the cost of all its components. "Component" means any article, material, or supply directly incorporated in a construction material.

(c) *Domestic component.* A component shall be considered to have been "mined, produced, or manufactured in the

United States" (regardless of its source in fact) if the article, material, or supply in which it is incorporated was manufactured in the United States and the component is of a class or kind determined by the Government to be not mined, produced, or manufactured in the United States in sufficient and reasonably available commercial quantities and of a satisfactory quality.

25. EQUAL OPPORTUNITY

(The following clause is applicable unless this contract is exempt under the rules, regulations, and relevant orders of the Secretary of Labor (41 CFR, ch. 60).)

During the performance of this contract, the Contractor agrees as follows:

(a) The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, or national origin. Such action shall include, but not be limited to, the following: Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the Contracting Officer setting forth the provisions of this Equal Opportunity clause.

(b) The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.

(c) The Contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the agency Contracting Officer, advising the labor union or workers' representative of the contractor's commitments under this Equal Opportunity clause, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

(d) The Contractor will comply with all provisions of Executive Order No. 11246 of September 24, 1965, as amended by Executive Order No. 11375 of October 13, 1967, and of the rules, regulations, and relevant orders of the Secretary of Labor.

(e) The Contractor will furnish all information and reports required by Executive Order No. 11246 of September 24, 1965, as amended by Executive Order No. 11375 of October 13, 1967, and by the rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the contracting agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

(f) In the event of the Contractor's noncompliance with the Equal Opportunity clause of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated, or suspended, in whole or in part, and the Contractor may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order No. 11246 of September 24, 1965, as amended by Executive Order No. 11375 of October 13, 1967, and such other sanctions may be imposed and remedies invoked as provided in Executive Order No. 11246 of September 24, 1965, as amended by Executive Order No. 11375 of October 13, 1967, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

(g) The Contractor will include the provisions of paragraphs (a) through (g) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order No. 11246 of September 24, 1965, as amended by Executive Order No. 11375 of October 13, 1967, so that such provisions will be binding upon each subcontractor or vendor. The Contractor will take such action with respect to any subcontract or purchase order as the contracting agency may direct as a means of enforcing such provisions, including sanctions for noncompliance: *Provided, however*, that in the event the Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the contracting agency, the Contractor may request the United States to enter into such litigation to protect the interests of the United States.

26. COVENANT AGAINST CONTINGENT FEES

The Contractor warrants that no person or selling agency has been employed or retained to solicit or secure this contract upon an agreement or understanding for a commission, percentage, brokerage, or contingent fee, excepting bona fide employees or bona fide established commercial or selling agencies maintained by the Contractor for the purpose of securing business. For breach or violation of this warranty the Government shall have the right to annul this contract without liability or in its discretion to deduct from the contract price or consideration, or otherwise recover, the full amount of such commission, percentage, brokerage, or contingent fee.

27. OFFICIALS NOT TO BENEFIT

No member of or delegate to Congress or resident Commissioner shall be admitted to any share or part of this contract, or to any benefit that may arise therefrom; but this provision shall not be construed to extend to this contract if made with a corporation for its general benefit.

28. CONVICT LABOR

In connection with the performance of work under this contract, the Contractor agrees not to employ any person undergoing sentence of imprisonment at hard labor except as provided by Public Law 85-47, September 10, 1965 (18 U.S.C. 4082(c)(2)) and Executive Order 11755, December 29, 1973.

29. UTILIZATION OF SMALL BUSINESS CONCERNS

(a) It is the policy of the Government as declared by the Congress that a fair proportion of the purchases and contracts for supplies and services for the Government be placed with small business concerns.

(b) The Contractor agrees to accomplish the maximum amount of subcontracting to small business concerns that the Contractor finds to be consistent with the efficient performance of this contract.

30. UTILIZATION OF MINORITY BUSINESS ENTERPRISES

(a) It is the policy of the Government that minority business enterprises shall have the maximum practicable opportunity to participate in the performance of Government contracts.

(b) The Contractor agrees to use his best efforts to carry out this policy in the award of his subcontracts to the fullest extent consistent with the efficient performance of this contract. As used in this contract, the term "minority business enterprise" means a business, at least 50 percent of which is owned by minority group members or, in case of publicly-owned businesses, at least 51 percent of the stock of which is owned by minority group members. For the purposes of this definition, minority group members are Negroes, Spanish-speaking American persons, American-Orientals, American-Indians, American-Eskimos, and American-Aleuts. Contractors may rely on written representations by subcontractors regarding their status as minority business enterprises in lieu of an independent investigation.

31. FEDERAL, STATE, AND LOCAL TAXES

(a) Except as may be otherwise provided in this contract, the contract price includes all applicable Federal, State and local taxes and duties.

(b) Nevertheless, with respect to any Federal excise tax or duty on the transactions or property covered by this contract, if a statute, court decision, written ruling, or regulation takes effect after the contract date, and—

(1) Results in the Contractor being required to pay or bear the burden of any such Federal excise tax or duty or increase in the rate thereof which would not otherwise have been payable on such transactions or property, the contract price shall be increased by the amount of such tax or duty or rate increase: *Provided*, That the Contractor if requested by the Contracting Officer, warrants in writing that no amount for such newly imposed Federal excise tax or duty or rate increase was included in the contract price as a contingency reserve or otherwise; or

(2) Results in the Contractor not being required to pay or bear the burden of, or in his obtaining a refund or drawback of, any such Federal excise tax or duty which would otherwise have been payable on such transactions or property or which was the basis of an increase in the contract price, the contract price shall be decreased by the amount of the relief, refund, or drawback, or that amount shall be paid to the Government, as directed by the Contracting Officer. The contract price shall be similarly decreased if the Contractor, through his fault or negligence or his failure to follow instructions of the Contract-

ing Officer, is required to pay or bear the burden of, or does not obtain a refund or drawback of, any such Federal excise tax or duty.

(c) No adjustment pursuant to paragraph b above will be made under this contract unless the aggregate amount thereof is or may reasonably be expected to be over \$100.00.

(d) As used in paragraph b above, the term "contract date" means the date set for the bid opening, or if this is a negotiated contract, the date of this contract. As to additional supplies or services procured by modification to this contract, the term "contract date" means the date of such modification.

(e) Unless there does not exist any reasonable basis to sustain an exemption, the Government, upon request of the

Contractor, without further liability, agrees, except as otherwise provided in this contract, to furnish evidence appropriate to establish exemption from any tax which the Contractor warrants in writing was excluded from the contract price. In addition, the Contracting Officer may furnish evidence to establish exemption from any tax that may, pursuant to this Clause, give rise to either an increase or decrease in the contract price. Except as otherwise provided in this contract, evidence appropriate to establish exemption from duties will be furnished only at the discretion of the Contracting Officer.

(f) The Contractor shall promptly notify the Contracting Officer of matters which will result in either an increase or decrease in the contract price, and shall take action with respect thereto as directed by the Contracting Officer.

SPECIAL PROVISIONS

1. LAND RIGHTS

- (a) Adequate land rights needed in order to perform the work under this contract have been acquired by or on behalf of the Government. The right to enter, remove, or otherwise make use of adjacent property, roads, utility lines, fences, and other improvements not included within the land rights provided, shall be the sole responsibility of the Contractor.
- (b) Where ingress and egress is not defined on the drawings, the Contracting Officer shall designate the right-of-way to be used.

2. RECORDS OF TEST PITS AND BORINGS

The Government does not represent that the available records show completely the existing conditions and does not guarantee any interpretation of these records. The Contractor assumes all responsibility for deductions and conclusions as to the nature of rock and other materials to be excavated, the difficulties of making and maintaining the required excavation and of doing other work affected by the geology of the site of the work, and for the final preparation of the foundations for the channel, dikes and other structures.

3. MATERIALS TO BE FURNISHED BY THE CONTRACTOR

- (a) Unless otherwise specified in this contract, the Contractor shall furnish all materials required for the completion of the contract.
- (b) Unless otherwise waived in writing by the Contracting Officer, the Contractor shall furnish the Government with certifications dated and signed by the manufacturer and/or supplier to the effect that the items listed therein meet the requirements of this contract. Such certifications shall be furnished prior to the use of the material in any part of the construction and shall identify the project on which the material is to be used.

4. WATER

Unless otherwise specified in this contract, the Contractor shall provide and maintain at his own expense an adequate supply of water suitable for construction purposes.

5. ACCIDENT PREVENTION AND SAFETY MEASURES

The Contractor shall comply with OSHA Parts 1910 and 1926, Construction Standards and Interpretations, in effect on the date of issuance of the invitation for bids and the Soil Conservation Service Supplement to OSHA, which is made a part of the contract.

The Contractor shall also comply with the requirements of Subchapter 4, Construction Safety Orders; Chapter 4 of Division of Industrial Safety;

Title 8, Industrial Relations of the California Administrative Code in effect on the date of the Invitation for Bids.

In case of difference between California Administrative Code Safety Orders and OSHA Parts 1910 and 1926, Construction Standards and Interpretations, the most stringent regulation shall apply.

6. WORKWEEK--CONSTRUCTION SCHEDULE

- (a) Unless furnished prior to contract award, the Contractor shall, prior to commencement of work, submit to the Contracting Officer for approval (1) a construction schedule showing the order in which he proposes to carry on the work indicating the periods during which he will perform work on each item listed in the bid schedule; (2) the hours and days in which he proposes to carry on the work; and (3) a list of proposed earth moving equipment to be used on the job.
- (b) If, in the opinion of the Contracting Officer, the Contractor falls behind the approved construction schedule, the Contractor shall take such steps as may be necessary to improve his progress and the Contracting Officer may require him to either increase the number of shifts, days or hours of work, or the amount of construction plant, or all of them, and to submit for approval such a revised construction schedule as may be deemed necessary to show the manner in which the agreed rate of progress will be regained, all without additional cost to the Government. If the Contractor fails to submit a revised construction schedule within the time specified by the Contracting Officer, the Contracting Officer may withhold approval of progress payments and/or take such other actions as provided in this contract until such time as the Contractor submits the required construction schedule.
- (c) Failure of the Contractor to comply with the requirements of the Contracting Officer under this clause shall be grounds for determination by the Contracting Officer that the Contractor is not prosecuting the work with such diligence as will insure completion within the time specified. Upon such determination, the Contracting Officer may terminate the Contractor's right to proceed with the work, or any separable part thereof, in accordance with Clause 5 of the General Provisions.

7. SUBCONTRACTORS

- (a) Work shall not be subcontracted in whole or in part without the prior written approval of the Contracting Officer. The request shall be in writing with the name of the proposed subcontractor and a description of the work to be done.
- (b) If at any time the Contracting Officer determines that any subcontractor is incompetent or undesirable, he shall notify the Contractor accordingly and the Contractor shall take immediate steps for cancellation of the subcontract.
- (c) Subcontracting by subcontractors shall be subject to the above requirements.
- (d) Nothing contained in this contract shall create any contractual relationship between any subcontractor and the Government.

8. SURVEYS

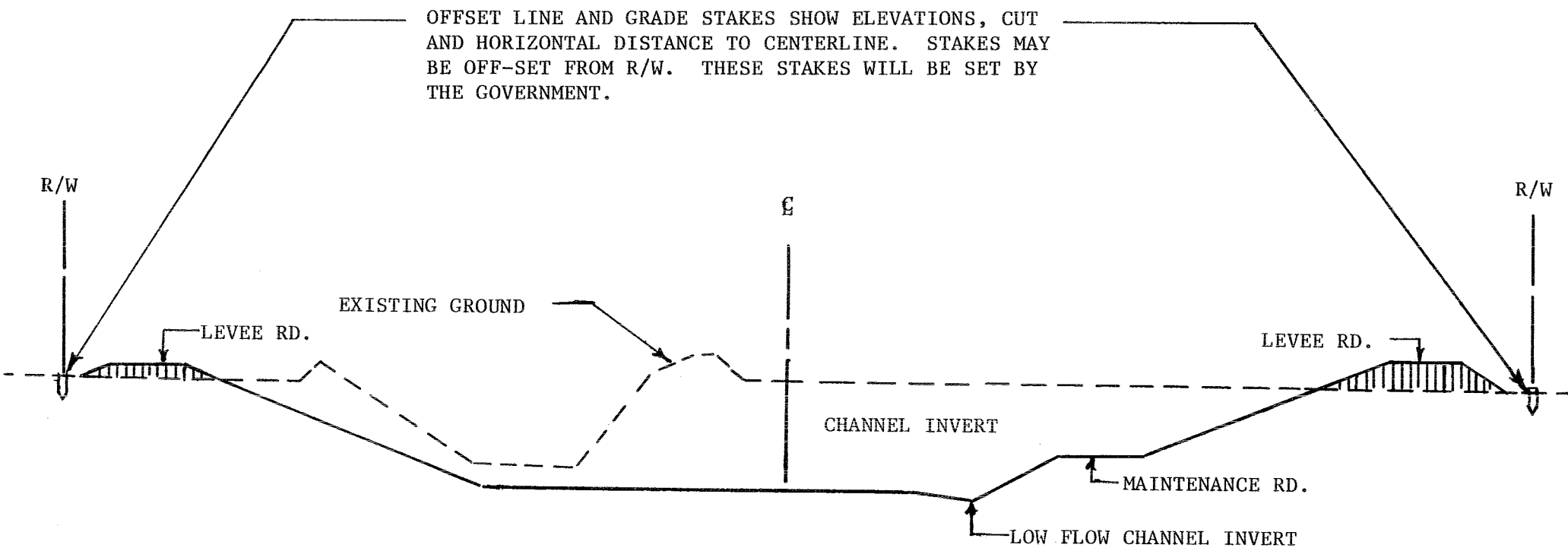
- (a) Only the basic staking shall be done by the Government. Contractor shall notify the Government Representative in advance of any staking required in order that such work can be properly scheduled.
- (b) The following basic staking will be established once during the contract period:
 - (1) The work area limits will be staked and flagged at not less than 100 foot intervals and at angle points.
 - (2) Offset line and grade stakes will be set at 100-foot stations or as otherwise determined necessary by the Government. The stakes will be set after written notification by the Contractor, and such notification shall be a minimum of four (4) working days in advance of starting operations that require such stakes or marks. See figure 1-1, page (SP-4) for an example of line and grade stakes.

Additional stakes necessary for forming the structures, slope stakes for constructing the slopes of embankments or constructing the sides of channels or stakes between stations are "construction" stakes. They are to be set by the construction contractor.

From the line and grade stakes set by the Government, the Contractor shall complete the layout of the work and shall be responsible for all measurements that may be required for the execution of the work.

The Contractor, shall furnish, at his own expense, such stakes, equipment, tools, and material, and all other labor including qualified surveying personnel, as may be required in laying out any part of the work from the line and grade stakes established by the Government.

OFFSET LINE AND GRADE STAKES SHOW ELEVATIONS, CUT
AND HORIZONTAL DISTANCE TO CENTERLINE. STAKES MAY
BE OFF-SET FROM R/W. THESE STAKES WILL BE SET BY
THE GOVERNMENT.



TYPICAL CROSS SECTION FOR STAKING

(Not to scale)

FIGURE 1-1

- (c) Control monuments shall be preserved by the Contractor and in the case of their destruction or removal, they will be replaced by the Government at the Contractor's expense. Replacement costs for each control monument shall be \$250.00.
- (d) Survey stakes destroyed or removed shall be replaced by the Contractor at the Contractor's expense. Should it be necessary for the Government to replace survey stakes, they shall be replaced by the Government at a cost of \$50.00 for each stake at the Contractor's expense.
- (e) If the Contractor finds any errors or omissions in the layout as given by survey points or staking, he shall immediately inform the Contracting Officer in writing.

9. CLEANUP WORK

- (a) During construction, the Contractor shall keep the work site, areas adjacent to the work site and access roads in an orderly condition, free and clear from debris and discarded materials. Care shall be taken to prevent spillage when hauling is being done. Any spillage or debris resulting from the Contractor's operations shall be immediately removed.
- (b) Upon completion of the work the Contractor shall remove from the work site, areas adjacent to the work site, and access roads: all plant, buildings, debris, unused materials, concrete forms and other material belonging to him or used under his direction during the construction. He shall grade all access roads, other than public, removing wheel tracks and smoothing up such roads.

10. WEATHER

- (a) The Contracting Officer may order suspension of the work in whole or in part, commencing with the day after receipt of the Notice to Proceed by the Contractor, due to weather or the effects of weather at the site, for such time as he considers it unfavorable for satisfactory prosecution of the work.
- (b) When the Contracting Officer orders suspension under (a) of this clause, the contract completion date shall be extended a full calendar day for each calendar day during suspension of the work if:
 - (1) All work is suspended except minor items as may be designated in this contract (work of an emergency, protective or maintenance nature may be performed at any time); and
 - (2) The hours lost in any one workday of the authorized workweek through suspension equal one-half or more of the hours of an authorized workday.
- (c) If the Contracting Officer orders suspension of the work as provided in (b) of this clause and the hours lost in the workday immediately preceding a nonworkday equal one-half or more of the hours in an authorized workday, the contract completion date shall be extended a full calendar day for each nonworkday during suspension of the work.

- (d) When the Contracting Officer orders any suspension of the work under this clause, the Contractor shall not be entitled to any cost or damages resulting from such suspension.
- (e) When the contract completion date is extended under this clause, the contract shall be modified in writing accordingly.

11. NONCOMPLIANCE WITH CONTRACT REQUIREMENTS

- (a) The Contracting Officer may order suspension of the work in whole or in part for such time as he deems necessary because of the failure of the Contractor to comply with any of the requirements of this contract, and the completion date shall not be extended on account of any such suspension of the work.
- (b) When the Contracting Officer orders any suspension of the work under (a) of this clause, the Contractor shall not be entitled to any costs or damages resulting from such suspension.
- (c) The rights and remedies of the Government provided in this clause are in addition to any other rights and remedies provided by law or under this contract.

12. QUANTITY VARIATIONS

- (a) Where the quantity of work shown for an item in the bid schedule, including any modification thereof, is estimated, no adjustment of the contract unit price nor of the performance time shall be made for overruns or underruns which are within 25 percent of the estimated quantity of any such item.
- (b) For overruns of more than 25 percent, the Contracting Officer shall re-estimate the quantity for the item, establish an equitable contract unit price for the overrun of more than 25 percent, adjust contract performance time equitably, and modify the contract in writing accordingly; this clause to thereafter be applicable to the total re-estimate item quantity.
- (c) For underruns of more than 25 percent, the Contracting Officer shall determine the quantity for the item, establish an equitable contract price therefore, adjust contract performance time equitably, and modify the contract in writing accordingly.

13. LIQUIDATED DAMAGES

If the work, or any part thereof, is not completed within the time agreed upon in this contract or any extension thereof, the Contractor shall be liable to the Government in the amount of \$460.00 per day for each and every calendar day the completion of the work is delayed beyond the time provided in this contract, as fixed and agreed liquidated damages and not as a penalty; and the Government shall have the right to deduct from and retain out of moneys which may be then due or which may become due and payable to the Contractor, the amount of such liquidated damages; and if the amount so retained by the Government is insufficient to pay

in full such liquidated damages, the Contractor shall pay to the Government the amount necessary to effect payment in full of such liquidated damages.

14. SEASONAL SHUTDOWN

- (a) In the event work on this contract extends into the winter season, which is approximately December 1 to approximately February 20, contract work may be suspended. The Contracting Officer will determine when conditions warrant suspension of work for the season and will issue a suspend work order. He will determine when conditions warrant an end to the seasonal shutdown. He will notify the Contractor at least seven calendar days before work is to be resumed by issuance of a resume work order.
- (b) With approval of the Contracting Officer, the Contractor may schedule and work on any contract item during the seasonal shutdown without charge to performance time. If for any reason the Contracting Officer suspends work on contract items so approved, the Contractor shall not be entitled to any adjustment in contract price or performance time because of such suspension. Work of an emergency, protective or maintenance nature may be performed at any time without prior approval of the Contracting Officer.
- (c) The contract completion date shall be extended one day for each calendar day of the actual seasonal shutdown period.

15. MINOR ITEMS OF WORK

The following bid items are designated as minor items of work. These items may be performed without charge to performance time during periods when all other work is suspended if such items are excepted in the suspend work order.

- Item No. 1. Mobilization
- 2. Clearing and Grubbing
- 4. Pollution Control
- 5. Removal of Water

16. QUANTITIES OF WORK AND MATERIALS

The quantities listed in the bid schedule on which unit prices are requested are estimates only. See clause title "Quantity Variations" of these Special Provisions.

17. PERFORMANCE OF WORK BY CONTRACTOR

The Contractor shall perform on the site and with his own organization, work equivalent to at least twenty percent (20%) of the total amount of work to be performed under the contract. If, during the progress of the work hereunder, the Contractor requests a reduction in such percentage and the Contracting Officer determines that it would be to the advantage of the Government, the percentage of the work required to be performed by the Contractor may be reduced with the written approval of the Contracting Officer.

18. SUBCONTRACTS

The provisions of this clause do not apply to firm fixed-price and fixed price with escalation (economic price adjustment) contracts. The clause does apply to new subcontracts or modifications of existing subcontracts which are necessitated because of unpriced contract changes pursuant to the Changes Clause or other provisions of this contract.

- (a) As used in this clause, the term "subcontract" includes purchase orders.
- (b) The Contractor shall notify the Contracting Officer reasonably in advance of entering into any subcontract if the Contractor's procurement system has not been approved by the Contracting Officer and if the subcontract:
 - (1) Is to be cost-reimbursement, time and materials, or labor-hour contract which it is estimated will involve an amount in excess of ten thousand dollars (\$10,000) including any fee;
 - (2) Is proposed to exceed one hundred thousand dollars (\$100,000); or
 - (3) Is one of a number of subcontracts, under this contract, with a single subcontractor for the same or related supplies or services which, in the aggregate, are expected to exceed one hundred thousand dollars (\$100,000).
- (c) The advance notification required by paragraph (b) above shall include;
 - (1) A description of the supplies or services to be called for by the subcontract;
 - (2) Identification of the proposed subcontractor and an explanation of why and how the proposed subcontractor was selected, including the competition obtained;
 - (3) The proposed subcontract price, together with the Contractor's cost or price analysis thereof;
 - (4) The subcontractor's current, complete, and accurate cost or pricing data and Certificate of Current Cost or Pricing Data, when such data and certificates are required by other provisions of this contract to be obtained from the subcontractor;
 - (5) Identification of the type of subcontract to be used;
 - (6) A memorandum of negotiation which sets forth the principal elements of the subcontract price negotiations. A copy of this memorandum shall be retained in the Contractor's file for use of Government reviewing authorities. The memorandum shall be in sufficient detail to reflect the most significant considerations controlling the establishment of initial or revised prices. The memorandum should include an explanation of why

cost or pricing data was, or was not required, and, if it was not required in the case of any price negotiation in excess of \$100,000, a statement of the basis for determining that the price resulted from or was based on adequate price competition established catalog or market prices of commercial items sold in substantial quantities to the general public, or prices set by law or regulation. If cost or pricing data was submitted and a certificate of cost or pricing data was required, the memorandum shall reflect the extent to which reliance was not placed upon the factual cost or pricing data submitted and the extent to which this data was not used by the Contractor in determining the total price objective and in negotiating the final price. The memorandum shall also reflect the extent to which it was recognized in the negotiation that any cost or pricing data submitted by the subcontractor was not accurate, complete, or current; the action taken by the Contractor and the subcontractor as a result; and the effect, if any, of such defective data on the total price negotiated. Where the total price negotiated differs significantly from the Contractor's total price objective, the memorandum shall explain this difference;

- (7) When incentives are used, the memorandum of negotiation shall contain an explanation of the incentive fee profit plan identifying each critical performance element, management decisions used to quantify each incentive element, reasons for incentives on particular performance characteristics, and a brief summary of trade-off possibilities considered as to cost, performance, and time; and
 - (8) The Subcontractor's Disclosure Statement of Certificate relating to Cost Accounting Standards when such data are required by other provisions of this contract to be obtained from the subcontractor.
- (d) The Contractor shall not enter into any subcontract for which advance notification to the Contracting Officer is required by this clause, without the prior written consent of the Contracting Officer; provided that the Contracting Officer in his discretion, may ratify in writing any subcontract. Such ratification shall constitute the consent of the Contracting Officer required by this paragraph.
 - (e) Neither consent by the Contracting Officer to any subcontract or any provisions thereof nor approval of the Contractor's procurement system shall be construed to be a determination of the acceptability of any subcontract price or of any amount paid under any subcontract or to relieve the Contractor of any responsibility for performing this contract, unless such approval or consent specifically provides otherwise.
 - (f) The Contractor agrees that no subcontract placed under this contract shall provide for payment on a cost-plus-a-percentage-of-cost basis.

19. CLEAN AIR AND WATER

Applicable only if the contract exceeds \$100,000, or the Contracting Officer has determined that orders under an indefinite quantity contract in any one year will exceed \$100,000, or a facility to be used has been the subject of a conviction under the Clean Air Act (42 U.S.C. 1857c-8(c)(1)) or the Federal Water Pollution Control Act (33 U.S.C. 1319(c)) and is listed by EPA, or the contract is not otherwise exempt.

(a) The Contractor agrees as follows:

- (1) To comply with all the requirements of Section 114 of the Clean Air Act as amended (42 U.S.C. 1857 et. seq., as amended by Public Law 91-604) and Section 308 of the Federal Water Pollution Control Act (33 U.S.C. 1251 et. seq., as amended by Public Law 92-500), respectively, relating to inspection, monitoring, entry, reports, and information, as well as other requirements specified in Section 114 and Section 308 of the Air Act and the Water Act, respectively, and all regulations and guidelines issued thereunder before the award of this contract.
- (2) That no portion of the work required by this prime contract will be performed in a facility listed on the Environmental Protection Agency List of Violating Facilities on the date when this contract was awarded unless and until the EPA eliminates the name of such facility or facilities from such a listing.
- (3) To use his best efforts to comply with clean air standards and clean water standards at the facility in which the contract is being performed.
- (4) To insert the substance of the provisions of this clause into any nonexempt subcontract, including this paragraph, (a)(4).

(b) The terms used in this clause have the following meanings:

- (1) The term "Air Act" means the Clean Air Act, as amended (42 U.S.C. 1857 et. seq., as amended by Public Law 91-604).
- (2) The term "Water Act" means Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et. seq., as amended by Public Law 92-500).
- (3) The term "Clean Air Standards" means any enforceable rules, regulations, guidelines, standards, limitations, orders, controls, prohibitions, or other requirements which are contained in, issued under, or otherwise adopted pursuant to the Air Act or Executive Order 11738, an applicable implementation plan as described in Section 110(d) of the Clean Air Act (42 U.S.C. 1857c-5(d)), an approved implementation procedure or plan under Section 111(c) or Section 111(d), respectively, of the Air Act (42 U.S.C. 1857c-6(c) or (d)), or an approved implementation procedure under Section 112(d) of the Air Act (42 U.S.C. 1857c-7(d)).

- (4) The term "Clean Water Standards" means any enforceable limitation, control, condition, prohibition, standard, or other requirement which is promulgated pursuant to the Water Act or contained in a permit issued to a discharger by the Environmental Protection Agency or by a State under an approved program is authorized by Section 402 of the Water Act (33 U.S.C. 1342), or by Local Government to ensure compliance with pre-treatment regulations as required by Section 307 of the Water Act (33 U.S.C. 1317).
- (5) The term "Compliance" means compliance with clean air or water standards. Compliance shall also mean compliance with a schedule or plan ordered or approved by a court of competent jurisdiction, the Environmental Protection Agency or an air or water pollution control agency in accordance with the requirements of the Air Act or Water Act and regulations issued pursuant thereto.
- (6) The term "Facility" means any building, plant installation, structure, mine, vessel or other floating craft, location, or site of operation, owned, leased or supervised by a Contractor or subcontractor, to be utilized in the performance of a contract or subcontract. Where a location or site of operations contains or includes more than one building, plant, installation, or structure, the entire location or site shall be deemed to be a facility except where the Director, Office of Federal Activities, Environmental Protection Agency, determines that independent facilities are collocated in one geographical area.

20. PERMITS

The Santa Clara Valley Water District has obtained some of the necessary permits. Copies of these permits can be obtained by contacting Bruce Wilson of the Santa Clara Valley Water District at (408) 265-2600, 5750 Almaden Express Way, San Jose, CA 95118.

21. WAGE RATES

- (a) Pursuant to the Provisions of the Davis-Bacon Act, as amended (40 U.S.C. 276a through 276a-7), the Secretary of Labor has hereby determined that the wage rates and fringe benefit's payments listed herein are prevailing for the described classes of labor and shall be the minimums to be paid under this contract by the Contractors and any subcontractors on the work.
- (b) While the wage rates shown in the wage determination are the minimum hourly rates required to be paid during the life of the contract, it is the responsibility of bidders to inform themselves as to the local labor conditions such as the length of workday and workweek, overtime compensation, health and welfare contributions, labor supply, and prospective changes or adjustments in the local wages. The Contractor shall abide by and conform to all applicable laws, executive orders, rules, regulations, and orders of Federal agencies authorized to pass upon and determine wage rates. No increase in

contract price shall be allowed or authorized on account of payment of wage rates in excess of those listed therein.

THE WAGE DETERMINATION DECISION IS ATTACHED.

22. PAYMENTS TO CONTRACTOR

Clause 7, Standard Form 23A is deleted and the following substituted therefore:

- (a) The Government will pay the contract price as hereinafter provided.
- (b) The Government will make progress payments monthly as the work proceeds, or at more frequent intervals as determined by the Contracting Officer. If requested by the Contracting Officer, the Contractor shall furnish a breakdown of the total contract price showing the amount included therein for each principal category of the work, in such detail as requested, to provide a basis for determining progress payments. In the preparation of estimates the Contracting Officer, at his discretion, may authorize material delivered on the site and preparatory work done to be taken into consideration. Material delivered to the Contractor at locations other than the site may also be taken into consideration (1) if such consideration is specifically authorized by the contract and (2) if the Contractor furnishes satisfactory evidence that he has acquired title to such material and that it will be utilized on the work covered by this contract.
- (c) In making such progress payments, there shall be retained 10 percent of the estimated amount until final completion and acceptance of the contract work. However, if the Contracting Officer finds that satisfactory progress was achieved during any period for which a progress payment is to be made, he may authorize such payment to be made in full without retention of a percentage. Also whenever the work is substantially complete, the Contracting Officer shall retain an amount he considers adequate for protection of the Government and, at his discretion, may release to the Contractor all or a portion of any excess amount. Furthermore, on completion and acceptance of each separate building, public work, or other division of the contract, on which the price is stated separately in the contract, payment may be made therefore without retention of a percentage.
- (d) All material and work covered by progress payments made shall thereupon become the sole property of the Government, but this provision shall not be construed as relieving the Contractor from the sole responsibility for all material and work upon which payments have been made or the restoration of any damaged work, or as waiving the right of the Government to require the fulfillment of all of the terms of the contract.
- (e) If Miller Act (40 U.S.C. 270a-270e) performance or payment bonds are required under this contract, the Government shall pay to the Contractor the total premiums paid by the Contractor to obtain the bonds. This payment shall be paid at one time to the Contractor

together with the first progress payment otherwise due after the Contractor has (1) furnished the bonds (including coinsurance and reinsurance agreements, when applicable), (2) furnished evidence of full payment to the surety company, and (3) submitted a request for such payment. The payment by the Government of the bond premiums to the Contractor shall not be made as increments of the individual progress payments and shall not be in addition to the contract price.

- (f) Upon completion and acceptance of all work, the amount due the Contractor under this contract shall be paid upon the presentation of a properly executed voucher and after the Contractor shall have furnished the Government with a release of all claims against the Government, arising by virtue of this contract, other than claims in stated amounts as may be specifically excepted by the Contractor from the operation of the release. If the Contractor's claim to amounts payable under the contract has been assigned under the Assignment of Claims Act of 1940, as amended (31 U.S.C. 203, 41 U.S.C. 15), a release may also be required of the assignee.

23. CONVICT LABOR

Clause 28, Standard Form 23A, is deleted and the following substituted therefor:

In connection with the performance of work under this contract, the Contractor agrees not to employ any person undergoing sentence of imprisonment except as provided by Public Law 89-176, September 10, 1965, (18 U.S.C. 408 (c) (2)) and Executive Order 11755, December 29, 1973.

24. ADMINISTRATION OF THE DIFFERING SITE CONDITIONS CLAUSE

- (a) Nature of the clause. Clause 4 of the General Provisions, Standard Form 23A, provides for an equitable adjustment to the Contractor or the Government which reflects the increases or decreases in the Contractor's cost of and time for performance that result from a differing site condition (as that term is defined in the clause) encountered by the Contractor. However, an equitable adjustment is only available to the Contractor if he gives the Contracting Officer a prompt notice in writing before disturbing the conditions (or secures an extension of the time for giving such notice) and asserts the claim before final payment under the contract.
- (b) Notice of differing site conditions. When the Contractor believes that a differing site condition has been encountered, the clause requires that a prompt written notice be given to the Contracting Officer so that the condition of the site can be investigated, the facts can be ascertained, and a determination can be made regarding the presence or absence of a differing site condition. The prompt notice requirement enables the Government to examine the condition of the site and, if necessary, (1) to modify the contract so that it will reflect the increased or decreased cost of and time for performance, or (2) to develop records concerning any increase or decrease in the cost of and time for performance. Cost and time information is essential for an independent Government judgement

regarding an equitable adjustment of the contract. A failure to give a timely notice could prejudice the Government's ability to determine the extent to which the Contractor or the Government is entitled to an equitable adjustment. Since the existence of a differing site condition is not always recognizable immediately, the clause provides that the Contracting Officer may extend the time for submission of the required notice.

The purpose of the authority to extend the time for notice is to insure that the Contractor is not deprived of the remedy provided by the clause because an inadvertent failure to give the required notice. However, this authority to extend the notice does not entitle the Contractor to a time extension beyond the time when he knew, or reasonably should have known, of the existence of a differing site condition. If the Contractor gives the required notice at the time he knew, or reasonably should have known, he is entitled to an equitable adjustment which reflects the increased costs and time required for performance that result from the differing site condition. If the Contractor fails to submit the required notice to the Contracting Officer by the time he knew, or reasonably should have known, of the existence of a differing site condition, he is not entitled to an equitable adjustment which reflects the increased costs and time required for performance prior to the time when he gave the notice or the time when the Government had actual notice of the existence of a differing site condition.

(c) Processing of Claims.

- (1) Since the time required by the Contractor to ascertain the amount of his claim varies with the circumstances, no specific time for the submission of a claim is specified in the clause. The clause simply states that no claim will be allowed if asserted after final payment. However, the Contractor should not unnecessarily postpone the submission of claims for equitable adjustments.
- (2) To prevent the Contractor from unnecessarily postponing the submission of claims, the Contracting Officer shall take the following actions.
 - (A) When the Contractor gives a prompt written notice of a differing site condition but has not submitted a claim for an equitable adjustment, although there has been a reasonable opportunity to ascertain the amount of the adjustment involved, the Contracting Officer shall send a written request to the Contractor (by registered or certified mail) that he submit within a specified period of time either a written claim or a request for an extension of the time for submission of the claim together with the reasons why the additional time is needed.
 - (B) In the event that the Contractor fails to submit a claim within the time specified in the request, or an approved time extension, the Contracting Officer shall make a unilateral determination of the amount of the equitable

adjustment which the Contractor is entitled to and shall notify the Contractor of the determination. Such unilateral determination may not be appealed under the Disputes clause of the contract.

25. DISPUTES

Clause 6 and Clause 19 of General Provisions, Standard Form 23-A, April 1975 Edition, are deleted and replaced by the following clause:

- (a) This contract is subject to the Contract Disputes Act of 1978 (P.L. 95-563).
- (b) Except as provided in the Act, all disputes arising under or relating to this contract shall be resolved in accordance with this clause.
- (c)
 - (1) As used herein, "claim" means a written demand or assertion by one of the parties seeking, as a legal right, the payment of money, adjustment or interpretation of contract terms, or other relief, arising under or relating to this contract.
 - (2) A voucher, invoice, or request for payment that is not in dispute when submitted is not a claim for the purposes of the Act. However, where such submission is subsequently not acted upon in a reasonable time, or disputed either as to liability or amount, it may be converted to a claim pursuant to the Act.
 - (3) A claim by the Contractor shall be made in writing and submitted to the Contracting Officer for decision. A claim by the Government against the contractor shall be subject to a decision by the Contracting Officer.
- (d) For Contractor claims of more than \$50,000, the Contractor shall submit with the claim a certification that the claim is made in good faith; the supporting data are accurate and complete to the best of the Contractor's knowledge and belief; and the amount requested accurately reflects the contract adjustment for which the Contractor believes the Government is liable. The certification shall be executed by the Contractor if an individual. When the Contractor is not an individual, the certification shall be executed by a senior company official in charge at the Contractor's plant or location involved, or by an officer or general partner of the Contractor having overall responsibility for the conduct of the Contractor's affairs.
- (e) For Contractor claims of \$50,000 or less, the Contracting Officer must render a decision within 60 days. For contractor claims in excess of \$50,000, the Contracting Officer must decide the claim within 60 days or notify the contractor of the date when the decision will be made.
- (f) The Contracting Officer's decision shall be final unless the contractor appeals or files a suit as provided in the Act.

- (g) The authority of the Contracting Officer under the Act does not extend to claims or disputes which by statute or regulation other agencies are expressly authorized to decide.
- (h) Interest on the amount found due on a contractor claim shall be paid from the date the claim is received by the Contracting Officer until the date of payment.
- (i) Except as the parties may otherwise agree, pending final resolution of a claim by the Contractor arising under the contract, the Contractor shall proceed diligently with the performance of the contract in accordance with the Contracting Officer's decision.

26. NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY (EXECUTIVE ORDER 11246)

- (a) The Offeror's or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Specifications" set forth herein.
- (b) The goals and timetables for minority female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:

<u>Timetables</u>	<u>Goals for Minority Participation for Each Trade</u>	<u>Goals for Female Participation in Each Trade</u>
Indefinite	19.6 percent	6.9 percent

These goals are applicable to all the Contractor's construction work (whether or not it is Federal or Federally-assisted) performed in the covered area. If the Contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the Contractor also is subject to the goals for both its federally involved and nonfederally involved construction.

The Contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(a), and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the Contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project-to-project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

- (c) The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within 10 working days of award of any construction subcontract in excess of \$10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address and telephone number of the subcontractor, employer identification number of the subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and geographical area in which the subcontract is to be performed.
- (d) As used in this Notice, and in the contract resulting from this solicitation, the "covered area" is Santa Clara County, California.

27. NOTICE

The notice "Equal Employment Opportunity is the Law" is to be displayed in conspicuous places, available to all employees and applicants for employment. It must be similarly displayed by you in the performance of your contract. This notice is available from the contracting office.

28. UTILIZATION OF SMALL BUSINESS CONCERNS AND SMALL BUSINESS CONCERNS OWNED AND CONTROLLED BY SOCIALLY AND ECONOMICALLY DISADVANTAGED INDIVIDUALS

- (a) This provision applies only to contracts between \$10,000 and \$1,000,000.
- (b) It is the policy of the United States that small business concerns and small business concerns owned and controlled by socially and economically disadvantaged individuals shall have the maximum practicable opportunity to participate in the performance of contracts let by any Federal agency.
- (c) The Contractor hereby agrees to carry out this policy in the awarding of subcontracts to the fullest extent consistent with the efficient performance of this contract. The Contractor further agrees to cooperate in any studies or surveys that may be conducted by the Small Business Administration or the contracting agency which may be necessary to determine the extent of the contractor's compliance with this clause.
 - (1) The term "small business concern" shall mean a small business as defined pursuant to Section 3 of the Small Business Act and in relevant regulations promulgated pursuant thereto.
 - (2) The term "small business concern owned and controlled by socially and economically disadvantaged individuals" shall mean a small business concern:
 - (A) which is at least 51 per centum owned by one or more socially and economically disadvantaged individuals; or in the case of any publicly owned business, at least 51 per centum of the stock of which is owned by one or more socially and economically disadvantaged individuals; and

- (B) whose management and daily business operations are controlled by one or more of such individuals.

The Contractor shall presume that socially and economically disadvantaged individuals include Black Americans, Hispanic Americans, Native Americans, Asian-Pacific Americans, and other minorities, or any other individual found to be disadvantaged by the Small Business Administration pursuant to section 8(a) of the Small Business Act.

- (d) Contractors acting in good faith may rely on written representations by their subcontractors as either a small business concern or a small business concern owned and controlled by socially and economically disadvantaged individuals.

29. SMALL BUSINESS AND SMALL DISADVANTAGED BUSINESS SUBCONTRACTING PROGRAM
(ADVERTISED)

- (a) This provision applies only to contracts exceeding \$1,000,000.
- (b) The offeror represents that it is aware:
 - (1) Of the subcontracting plan requirement in this provision and, if selected for award, it will submit within the time specified by the Contracting Officer, a subcontracting plan that will afford the maximum practicable opportunity to participate in the performance of the contract to small business and small disadvantaged business concerns and will include:
 - (A) Percentage goals (expressed in terms of percentage of total planned subcontracting dollars) for the utilization as subcontractors of small business concerns and small business concerns owned and controlled by socially and economically disadvantaged individuals. (For the purposes of the subcontracting plan, the Contractor may include all purchases which contribute to the performance of the contract, including a proportionate share of products, services, etc., whose costs are normally allocated as indirect or overhead costs.)
 - (B) The name of an individual within the employ of the offeror who will administer the subcontracting program of the offeror and a description of the duties of such individual;
 - (C) A description of the efforts the bidder will take to assure that small business concerns and small business concerns owned and controlled by socially and economically disadvantaged individuals will have an equitable opportunity to compete for subcontracts;
 - (D) Assurances that the bidder will include the clause entitled "Utilization of Small Business Concerns and Small Business Concerns Owned and Controlled by Socially and

Economically Disadvantaged Individuals" in all subcontracts which offer further subcontracting opportunities and to require all subcontractors (except small business concerns) which receive subcontracts in excess of \$500,000, or in the case of a contract for the construction of any public facility, \$1,000,000, to adopt and comply with a plan similar to the plan agreed to by the bidder.

- (E) Assurances that the bidder will submit such periodic reports and cooperate in any studies or surveys as may be required by the contracting agency or the Small Business Administration in order to determine the extent of compliance by the bidder with the subcontracting plan; and
 - (F) A recitation of the types of records the successful bidder will maintain to demonstrate procedures which have been adopted to comply with the requirements and goals set forth in the plan, including the establishment of source lists of small business concerns and small business concerns owned and controlled by socially and economically disadvantaged individuals; and efforts to identify and award subcontracts to such small business concerns.
- (2) Of the clause entitled "Utilization of Small Business Concerns and Small Business Concerns Owned and Controlled by Socially and Economically Disadvantaged Individuals" in the contract.
- (c) If the Contracting Officer believes that the subcontracting plan submitted pursuant to this Section does not reflect the best effort by the bidder to award subcontracts to small and small disadvantaged firms to the fullest extent consistent with the efficient performance of the contract, he shall notify the agency's director of the Office of Small and Disadvantaged Business Utilization who shall in turn notify the Small Business Administration and request a review of the plan pursuant to Section 8(d)(10) and (11) of the Small Business Act. Such request for an SBA review shall not delay award of the contract. Prior compliance of the offeror with other such subcontracting plans under previous contracts will be considered by the Contracting Officer in determining the responsibility of the bidder for award of the contract.
- (d) The bidder understands that:
- (1) It agrees to carry out the Government's policy to provide the maximum practicable opportunity for small business concerns and small business concerns owned and controlled by socially and economically disadvantaged individuals to participate in the performance of the contract, consistent with its efficient performance.
 - (2) If it does not submit a subcontracting plan within the time limits prescribed by the contracting agency, it will be ineligible to be awarded the contract.

- (3) Prior compliance of the bidder with other such subcontracting plans under previous contracts will be considered by the Contracting Officer in determining the responsibility of the offeror for award of the contract.
- (4) It is the bidder's responsibility to develop a subcontracting plan with respect to both small business concerns and small business concerns owned and controlled by socially and economically disadvantaged individuals.
- (e) Subcontracting plans are not required of small business concerns.
- (f) The failure of any Contractor or subcontractor to comply in good faith with (A) the clause entitle "Utilization of Small Business Concerns and Small Business Concerns Owned and Controlled by Socially and Economically Disadvantaged Individuals," or (B) the terms of any subcontracting plan required by this Small Business and Small Disadvantaged Business Subcontracting Plan (Advertised) provision, will be a material breach of the contract or subcontract.
- (g) Nothing contained in this provision supersedes the requirements of Defense Manpower Policy 4A or any successor policy.

30. REFERENCE SPECIFICATION AND STANDARDS

- (a) Where reference is made to specifications of other organizations for portions of the work, such reference shall apply only to construction methods and materials used in said work.
- (b) Reference in these Specifications to "Caltrans Specifications" shall mean the "Standard Specifications of the State of California, Business and Transportation Agency, Department of Transportation," dated January 1981, including all current supplements, addenda, and revisions thereof.
- (c) Reference in these Specifications to State Standard Plans (Caltrans) shall mean the "Standard Plans of the State of California, Business and Transportation Agency, Department of Transportation," dated January 1981, including all current supplements, addenda, and revisions thereof.
- (d) Whenever a reference is made in the Specifications to a specification or test designation of the American Society of Testing and Materials (ASTM), the American National Standards Institute (ANSI), the American Water Works Association (AWWA), or any other recognized national organization, it shall be construed to mean the test method or specification, as the case may be, either a standard, tentative standard, or supplement, and revisions thereof, adopted and in effect on the date of invitation for bids. In the event of conflict between such referenced specifications and the Construction or Material Specifications, the latter shall govern.

31. PUBLIC LIABILITY AND PROPERTY DAMAGE INSURANCE

The Contractor shall secure and maintain during the life of this contract, such public liability and property damage insurance as necessary to protect him and any subcontractor performing work under this contract from claims for damage due to personal injury, accidental death, or property damages which may arise from his operations under this contract. The insurance shall provide the required coverage regardless of whether claims arise from operations performed by the Contractor or by any subcontractor, or by anyone directly or indirectly employed by either of them.

The public liability insurance described hereinbefore shall include protection from claims caused by automobiles, trucks, or other vehicles of the Contractor or any subcontractors while in use both within and outside the contract premises. The property damage insurance shall cover damage or destruction of any and all property other than that which is owned, leased, or in the care, custody, or control of the Contractor or any subcontractor, with liability limit applying to any one accident, disaster, or claim.

The liability insurance policy shall name the Santa Clara Valley Water District and the City of Gilroy as coinsured with the Contractor. The policy shall insure the District and the City, their officers, employees, and agencies, while acting within the scope of their duties under this contract.

The amount of Public Liability and Property Damage Insurance shall be as follows:

Public Liability Insurance in an amount not less than \$500,000 for injuries, including accidental death, for any one person, and subject to the same limit for each person in an amount not less than \$1,000,000 on account of any one accident.

Property Damage Insurance in an amount not less than \$1,000,000.

The Contractor shall furnish the Government evidence relative to the cost of the liability insurance required by this provision in detail sufficient to permit the Government to ascertain the additional premium involved due to the requirement of having the Santa Clara Valley Water District and the City of Gilroy being named as coinsured principals under the policy.

The Contractor will be reimbursed by the Santa Clara Valley Water District for the cost of additional premium due to the District and the City being named as coinsured principals upon submission of a properly documented invoice to the Santa Clara Valley Water District.

The Contractor shall submit a copy of the insurance policy to the Santa Clara Valley Water District within ten (10) days after the award of the contract and shall not commence work until written notice to proceed is given by the Government.

32. UTILITY CONTACTS

(a) Telephone Company:

Alan Hong-Yee
Continental Telephone Company
P.O. Box 96
Gilroy, CA 95020
(408) 842-8997

(b) Electrical Company

Larry Englund
PG&E
111 Almaden Boulevard
San Jose, CA 95198
(408) 298-3333

(c) Norm Allen
City of Gilroy
7351 Rosanna Street
Gilroy, CA 95020
(408) 842-9321

(d) Bruce Wilson
Santa Clara Valley Water District
5750 Almaden Expressway
San Jose, CA 95118
(408) 265-2600

(e) PG&E Company
7461 Egleberry
Gilroy, CA 95020
(800) 642-2444

(f) California Department of Transportation
P. Johnson, Permit Coordinator
P.O. Box 2338
Santa Cruz, CA
(408) 476-4553

33. WASTE MATERIAL

The following people and/or agencies have expressed an interest in the waste material from Bid Item 6, Excavation, Common, that the Contractor has to dispose of at sites of his own choosing.

(a) Mr. Robert P. Kraemer
Director of Engineering
Gilroy Foods, Incorporated
1350 Pacheco Pass Highway
Gilroy, CA 95020
(408) 847-1414

(b) Mr. Richard Cox, Director
Department of Public Works
City of Gilroy
Gilroy, CA 95020
(408) 842-9321

No materials will be designated as waste material until completion of the 355,000 c.y. stockpiled in Bid Item 7, Stockpile Material.

34. METHOD OF PAYMENT

The Contractor will be required to complete a payment information form to be furnished by the government. The form provides certain information to the federal government to enable payments to the Contractor of \$25,000 and over to be made by electronic transfer of funds to the Contractor's account. When completing this form, care should be taken to provide accurate and complete data to avoid delays in payment.

This method of payment is not currently in effect but will be in effect in the near future. To avoid delays in payments to the Contractor, this information is being requested prior to implementation of this plan.

2/3/84

MODIFICATIONS

DECISION NO. CA83-5128 -
MOD. #1
(48 FR 55239 - December 9,
1983)
Lake, Marin, Mendocino, &
Sonoma Cos., California

Change:

Electricians;
Electricians - Area 9
Cable Splicers

Basic Hourly Rates	Fringe Benefits
\$22.85	4.74 + 3%
25.14	4.74 + 3%

SUPERS' DEAS DECISION

STATE: California

COUNTIES: Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa,
Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera,
Marin, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer,
Plumas, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo,
Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma,
Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo, and Yuba

DECISION NUMBER: CA03-5128

DATE: Date of Publication

Supersedes Decision No: CA83-5112 dated July 1, 1983, in 48 FR 30557

DESCRIPTION OF WORK: Building; Heavy excluding Water Well Drilling) and
Highway Projects; and Residential Projects (excluding Alpine, Butte, Colusa,
Fresno, Glenn, Kings, Lake, Lassen, Madera, Mendocino, Modoc, Plumas, Shasta,
Sierra, Siskiyou, Stanislaus, Tehama, Trinity, and Tulare Counties)

	Basic Hourly Rates	Fringe Benefits		Basic Hourly Rates	Fringe Benefits
ASBESTOS WORKERS	\$24.20	\$4.51	CARPENTERS; (Cont'd)		
BOILERMAKERS	21.39	3.96	Area 3 (Residential)	\$11.80	\$5.125
BRICKLAYERS; Stonemasons;			Area 4:		
Area 1	18.52	6.10	Carpenters	16.95	6.455
Area 2	18.90	4.95	Hardwood Floor Layers;		
Area 3	17.35	3.30	Shinglers; Power Saw		
Area 4	17.53	3.46	Operators; Steel		
Area 5	15.99	3.53	Scaffold Erector and		
Area 6	20.10	3.87	Steel Shoring; Saw		
Area 7	17.57	3.89	Filers	17.10	6.455
Area 8	17.19	4.11	Millwrights	17.85	7.455
BRICK TENDERS;			Piledrivermen	19.38	8.105
Area 1	14.73	3.05	Insulator (Hopper or		
Area 2	15.48	3.70	Blower Operator)		
Area 3	15.24	3.46	(Residential).	8.475	6.455
Area 4	14.99	3.46	CEMENT MASONS;		
Area 5	15.98	3.46	Cement Masons	15.52	5.93
Area 6	15.19	5.10	Swing or Slip Form		
Area 7	16.55	3.45	Scaffolds or		
Area 8	17.05	3.45	Composition Masons	15.77	5.93
CARPENTERS;			COMMUNICATION TECHNICIAN	12.85	3.07
Area 1:			DIVERS;		
Carpenters	19.28	6.455	Divers	33.89	6.225
Hardwood Floorlayers;			Stand-by Divers	18.05	6.225
Shinglers; Power Saw			DRYWALL INSTALLERS/LATHERS;		
Operator; Steel Scaf-			Drywall Installers;		
fold Erector and Steel			Lathers	20.12	6.225
Shoring Saw Filers	19.43	6.455	Residential Drywall;		
Millwrights	19.28	7.455	Lathers;		
Piledrivermen	19.38	8.105	Area 1	13.57	6.225
Area 2:			ELECTRICIANS;		
Carpenters	16.65	6.455	Area 1:		
Hardwood Floorlayers;			Electricians	22.56	6.298+
Shinglers; Power Saw					3%
Operators; Steel Scaf-			Area 2:		
fold Erector and Steel			Electricians	15.80	4.75+
Shoring; Saw Filers	16.80	6.455			3%
Millwrights	17.55	7.455	Residential Electrician	12.12	3.10+
Piledrivermen	19.38	8.105			3%

DECISION NO. CA83-5128		Page 2		DECISION NO. CA83-5128		Page 3	
Basic Hourly Rates	Fringe Benefits			Basic Hourly Rates	Fringe Benefits	Basic Hourly Rates	Fringe Benefits
ELECTRICIANS: (Cont'd)		ELECTRICIANS: (Cont'd)		LINE CONSTRUCTION: (Cont'd)		LINE CONSTRUCTION: (Cont'd)	
Area 3:		Area 13:		Area 2-Zone 1 (Cont'd)		Area 8:	
Electricians	\$22.78 \$4.14+	Electricians	\$24.40 \$7.17	Group 5	\$13.56 \$2.05+	Groundmen	\$13.02 \$3.06+
Cable Splicers	24.91 4.14+	Cable Splicers	27.45 7.17	Group 6	13.56 2.05+	Linemen; Equipment Operators	16.28 3.06+
Area 4:		Area 14:		Group 7	12.74 2.05+	Cable Splicers	17.91 3.06+
Electricians	15.71 4.06	Electricians	24.535 4.84+	Zone Differential (add to Zone 1 rate):		Area 9:	
Residential Electricians	12.87 3.51+	Cable Splicers	27.60 4.84+	Zone 2 - \$2.40		Groundmen and Truck Drivers	18.42 6.295+
Area 5:		Area 15:		Zone 3 - 3.15		Linemen	24.56 6.295+
Electricians	19.81 4.24+	Electricians	25.00 5.42+	Zone 4 - 3.90		Heavy Equipment Operators	22.10 6.295+
Cable Splicers	22.29 4.24+	ELEVATOR CONSTRUCTORS:		Zone 5 - 5.15		Area 10:	
Residential Electricians	10.25 1.20+	Mechanics	28.35 3.00+	Area 3:		Groundmen	12.00 3.10+
Area 6:		Helpers	19.845 3.00+	Groundmen	17.88 3.71+	Equipment Operators	13.00 3.10+
Electricians	24.16 5.20+	Probationary Helper	14.175	Linemen; Line Equipment Operators	18.70 3.71+	Linemen	15.00 3.10+
Cable Splicers	26.16 5.20+	GLAZIERS:		Area 4:		Area 11:	
Area 7:		Area 1	20.92 5.66	Groundmen	14.86 4.24+	Groundmen	21.25 5.42+
Electricians	17.08 1.54+	Area 2	15.75 6.44	Line Equipment Operators	17.83 4.24+	Line Equipment Operators	22.50 5.42+
Cable Splicers	18.45 1.54+	Area 3 (Residential)	10.00 2.72	Linemen	19.81 4.24+	Linemen	25.00 5.42+
Area 8:		Area 4 (Residential)	9.82 1.70	Cable Splicers	22.29 4.24+	Area 12:	
Electricians	18.25 4.06+	Area 5	16.40 5.52	Area 5:		Groundmen	13.66 1.54+
Cable Splicers	20.08 4.06+	Area 6	13.58 2.84	Groundmen	11.60 2.75+	Heavy Equipment Operators	15.37 1.54+
Residential Electricians	10.00 1.01+	Area 7	20.06 6.11	Linemen	15.47 2.75+	Linemen	17.08 1.54+
Area 9:		IRONWORKERS:		Cable Splicers	17.02 2.75+	Cable Splicers	18.45 1.54+
Electricians	21.85 3.81+	Fence Erectors	16.41 8.53	Area 6:		Area 13:	
Cable Splicers	24.04 3.81+	Reinforcing, Ornamental, and Structural	17.30 8.53	Groundmen	16.42 5.86+	Groundmen	20.85 4.84+
Area 10:		LINE CONSTRUCTION:		Linemen	21.89 7.23+	Linemen; Technicians	24.535 4.84+
Electricians	14.37 3.92	Area 1:		Cable Splicers	24.63 7.23+	Cable Splicers	27.60 4.84+
Residential Electricians	9.25 1.15+	Groundman	18.12 4.95+	Area 7:			
Area 11:		Line Equipment Operators	21.74 4.95+	Groundman & Truck Driver	14.68 4.09+		
Electricians	18.89 6.68+	Linemen	24.16 4.95+	Linemen	22.30 4.09+		
Cable Splicers	21.25 6.68+	Cable Splicers	26.16 4.95+	Cable Splicers	22.30 4.09+		
Area 12:		Area 2: (Zone 1):					
Electricians	23.34 5.05+	Group 1	19.93 2.75+				
Cable Splicers	26.26 5.05+	Group 2	18.01 2.75+				
		Group 3	16.25 2.75+				
		Group 4	15.51 2.05+				

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LINE CONSTRUCTION: (Cont'd)

	Basic Hourly Rates	Fringe Benefits
Area 14: Groundmen	\$18.70	\$5.75+ 38
Linemen; Line Equipment Operators	22.00	5.75+ 38
Cable Splicers	24.75	5.75+ 38
Area 15: Groundmen	18.28	4.74+ 38
Heavy Equipment Operator	20.57	4.74+ 38
Linemen	22.85	4.74+ 38
Cable Splicers	25.14	4.74+ 38
MARBLE SETTERS	20.52	6.10
MARBLE AND TILE FINISHERS:		
Area 1	14.25	3.88
Area 2	10.85	2.50
PAINTERS:		
Area 1:		
Brush	13.39	4.60
Spray	14.14	4.60
Sheetrock; Taper; Swing; Stage; Scaffold; Sandblaster Structural Steel	13.79	4.60
Area 2:		
Brush; Roller; Taper; Spray; Sandblasters; Structural Steel; Paperhangers; and Bazooka Operators	15.22	1.59
Area 3:		
Brush	16.20	2.57
Hazardous Coating	17.20	2.57
Spray; Sandblasting; Taping	16.70	2.57
Area 4:		
Brush	20.58	4.18
Tapers	21.38	4.18
Area 5:		
Brush	20.08	4.18
Tapers	21.38	4.18
Area 6:		
Brush and Roller	17.45	1.95
Spray; Sandblaster; Paperhanger; and Taper	17.95	1.95
Brush - Swing Stage up to 40 ft.; Brush-steel	17.70	1.95
Spray - Swing Stage up to 40 ft; Spray-steel	18.20	1.95

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PAINTERS: (Cont'd)

	Basic Hourly Rates	Fringe Benefits
Area 7:	\$21.23	\$4.18
Brush	21.73	4.18
Spray; Sandblasting; Steam Cleaning	21.53	4.18
Drywall Finisher		
Brush (exterior stage)		
5, 6, and 7 story buildings; Erected steel over 50 ft. Paperhangers	22.48	4.18
Area 8:	21.98	4.18
Brush; Pot Tenders; Rollers	9.80	1.35
Spray; Sandblaster; Structural Steel; Swing Stage; Tapers	10.30	1.35
Area 9:		
Brush	19.79	5.38
Spray	20.29	5.38
Spray (coating) and Paperhangers	20.54	5.38
Tapers (paint)	20.18	5.38
Area 10:		
Brush	11.08	2.67
Spray; Sandblasters; Structural Steel; Swing Stage; Tapers; Paperhangers	11.33	2.67
PARKING LOT STRIPING WORK and/or HIGHWAY MARKERS:		
Area 1:		
Traffic Delineating Device Applicator	14.48	1.65+ b
Wheel Stop Installer; Traffic Surface Sandblaster; Striper	13.95	1.65+ b
Slurry Seal Operation; Mixer Operator	13.95	1.65+ b
Squeegee Man; Applicator Operator; and Shuttleman	12.37	1.65+ b
Top Man	10.39	1.65+ b

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PARKING LOT STRIPING WORK and/or HIGHWAY MARKERS: (Cont'd)

	Basic Hourly Rates	Fringe Benefits
Area 2:		
Traffic Delineating Device Applicator; Wheel Stop Installer; Traffic Surface Sandblaster	\$12.37	\$1.55+b
Striper	13.57	1.55+b
Slurry Seal Operation; Mixer Operator	12.37	1.55+b
Squeegee Man	10.60	1.55+b
Applicator Operator	10.60	1.55+b
Top Man	8.91	1.55+b
PLASTERERS:		
Area 1	19.88	4.88
Area 2	20.05	7.25
Area 3	16.06	5.91
Area 4	16.63	5.44
Area 5	18.44	6.58
Area 6	16.55	6.94
Area 7	18.81	3.61
Area 8	14.30	7.45
PLASTERERS' TENDERS:		
Area 1	13.62	5.05
Area 2	16.85	5.01
Area 3	13.84	5.45
Area 4	13.71	4.45
Area 5	13.27	4.45
Area 6	13.82	4.45
Area 7	17.50	4.05
Area 8	16.15	3.10
Area 9	13.75	4.45
Area 10	14.95	2.70
PLUMBERS:		
Area 1	25.41	5.43
Area 2	25.86	6.79
PLUMBERS; Steamfitters:		
Area 1	19.72	6.71
Area 2	20.34	2.43
Area 3	26.64	8.30
Area 4	22.03	5.80
Area 5	26.40	5.84
Area 6	15.47	8.65
Area 7	24.17	7.80
Area 8	23.36	6.47

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ROOFERS:

	Basic Hourly Rates	Fringe Benefits
Area 1:		
Roofers	\$16.25	\$5.87
Mastic Workers; Kettle men (2 kettles w/o pumps)	16.50	5.87
Bitumastic; Enamelers; Pipewrappers; Coal Tar Built up	18.75	5.87
Area 2	16.85	2.59
Area 3	14.80	3.34
Area 4	15.30	3.35
Area 5:		
Roofers	16.00	6.64
Mastic Workers; Kettle men (2 kettles w/o pumps)	16.25	6.64
Bitumastic; Enamelers; Pipewrappers; Coal Tar Pitch	18.00	6.64
Area 6	10.32	1.15
Area 7	19.10	4.00
Area 8:		
Roofers	16.80	6.09
Mastic Workers; Kettle men (2 kettles w/o pumps)	17.25	6.09
Bitumastic; Enamelers; Pipewrappers; Coal Tar	18.80	6.09
Area 9:		
Roofers (slate, tile and composition)	14.45	7.34
Enameler and Pitch	16.45	7.34
Area 10:		
Kettleman (1 kettle)	15.83	5.92
Kettlemen (2 kettles)	16.83	5.92
Bitumastic; Enamelers; Coal Tar; Pitch and Mastic	17.83	5.92
SHEET METAL WORKERS:		
Area 1	25.73	5.04
Area 2	16.93	4.67
Area 3	17.54	4.55+ 124
Area 4	18.25	4.32
Area 5	20.57	6.96
Area 6	17.80	3.76
Area 7	26.18	4.74

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	Basic Hourly Rates	Fringe Benefits
SHEET METAL WORKERS: (Cont'd)		
Area 8	\$18.38	\$4.22
Area 9	25.06	5.92
Area 10	22.16	4.70
Area 11	21.76	6.52
Area 12	24.51	8.84
Area 13	25.73	5.14
SOFT FLOOR LAYERS:		
Area 1	16.01	3.00
Area 2	13.74	.90
Area 3	19.42	3.93
Area 4	11.96	2.27
SPRINKLER FITTERS:		
Area 1	26.72	7.29
Area 2	21.87	3.23
STEAMFITTERS:		
Area 1	27.66	4.32
TERRAZZO WORKERS:		
Area 1	20.52	6.10
Area 2	17.53	3.46
Area 3	20.25	2.87
TILE SETTERS:		
Area 1	20.76	4.17
Area 2	18.02	3.14
TERRAZZO WORKERS and TILE SETTERS:		
Area 1	16.15	2.90
Area 2	20.23	3.69
TERRAZZO FINISHERS:		
Area 1:		
Terrazzo Finishers	15.81	3.10
Base Machine Operator	16.51	3.10
LABORERS:		
Area 1:		
Group 1	14.56	5.11
Group 1(a)	14.785	5.11
Group 1(b)	15.06	5.11
Group 1(c)	14.61	5.11
Group 1(d)	14.81	5.11
Group 1(e)	15.11	5.11
Group 1(f)	15.145	5.11
Group 1(g)	14.76	5.11
Group 2	14.41	5.11
Group 3	14.31	5.11
Group 4	8.00	5.11
Area 2:		
Group 1	13.56	5.11
Group 1(a)	13.785	5.11
Group 1(b)	14.06	5.11
Group 1(c)	13.61	5.11
Group 1(d)	13.81	5.11
Group 1(e)	14.11	5.11

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	Basic Hourly Rates	Fringe Benefits
LABORERS: (Cont'd)		
Area 2: (Cont'd)		
Group 1(f)	\$14.145	\$5.11
Group 1(g)	13.76	5.11
Group 2	13.41	5.11
Group 3	13.31	5.11
Group 4	8.00	5.11
AREA 1:		
GUNNITE LABORERS:		
Group 1	14.02	5.11
Group 2	13.43	5.11
Group 3	12.31	5.11
TUNNEL and SHAFT LABORERS:		
Group 1	16.46	5.11
Group 2	16.03	5.11
Group 3	15.78	5.11
Group 4	15.62	5.11
WRECKING WORK:		
Group 1	13.56	5.11
Group 2	13.41	5.11
Group 3	13.31	5.11
HOUSEMOVING LABORERS:		
Group 1	13.56	5.11
AREA 2:		
GUNNITE LABORERS:		
Group 1	13.02	5.11
Group 2	12.43	5.11
Group 3	13.31	5.11
TUNNEL and SHAFT LABORERS:		
Group 1	15.46	5.11
Group 2	15.03	5.11
Group 3	14.78	5.11
Group 4	14.62	5.11
WRECKING WORK:		
Group 1	12.56	5.11
Group 2	12.41	5.11
Group 3	12.31	5.11
HOUSEMOVING LABORERS:		
Group 1	12.56	5.11

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POWER EQUIPMENT OPERATORS:

Group 1
Group 2
Group 3
Group 4
Group 5
Group 6
Group 7
Group 8
Group 9
Group 10
Group 10-A
Group 11
Group 11-A
Group 11-B
Group 11-C

FRINGE BENEFITS:
\$8.75

DREDGING - SCHEDULE I
Clamshell and Dipper Dredging
(New Construction):

Group 1
Group 2
Group 3
Group 4
Group 4-A

DREDGING - SCHEDULE II
Hydraulic Suction Dredging and all
other Dredging:

Group A-1
Group A-2
Group A-3
Group A-4

FRINGE BENEFITS:
\$8.56

AREA 1	AREA 2	AREA 3	AREA 4	
Basic Hourly Rates	Basic Hourly Rates	Basic Hourly Rates	Basic Hourly Rates	Basic Hourly Rates
\$14.05	\$16.05			
14.55	16.55			
14.85	16.85			
15.62	17.62			
15.92	17.92			
16.13	18.13			
16.35	18.35			
16.97	18.97			
17.28	19.28			
17.60	19.60			
17.77	19.77			
18.01	20.01			
19.65	21.65			
20.04	22.04			
20.05	22.05			
14.11	15.37	15.75	16.11	
17.01	18.37	18.75	19.14	
17.01	18.37	18.75	19.14	
18.06	19.43	19.80	20.19	
19.68	21.06	21.49	21.88	
14.09	15.35	15.71	16.09	
15.45	16.76	17.16	17.54	
16.36	17.72	18.12	18.50	
17.60	18.98	19.35	19.74	

DECISION NO. CA83-5128	Basic Hourly Rates	Fringe Benefits	Page 8	Basic Hourly Rates	Fringe Benefits
POWER EQUIPMENT OPERATORS:			TRUCK DRIVERS:		
DREDGING (Cont'd)			Group 1	\$15.55	\$6.19
TOW BOATS:			Group 2	15.63	6.19
Work on self-propelled vessels (except Skiffs powered by outboard motors) engaged in towing vessels and water borne craft or in the transportation by water or personnel, materials, equipment and supplies:			Group 3	15.65	6.19
Deckhand/Mechanics	\$10.86	\$3.37	Group 4	15.66	6.19
Operator Mechanic/Watch Engineer	12.17	3.86	Group 5	15.67	6.19
Work on self-propelled vessels):			Group 6	15.68	6.19
Boat Operators	12.17	3.86	Group 7	15.70	6.19
PILED RIVING:			Group 8	15.72	6.19
Group 1	14.12	8.75	Group 9	15.73	6.19
Group 1A	14.61	8.75	Group 10	15.75	6.19
Group 1B	14.90	8.75	Group 11	15.76	6.19
Group 2A	14.90	8.75	Group 12	15.80	6.19
Group 2B	15.68	8.75	Group 13	15.81	6.19
Group 2C	15.98	8.75	Group 14	15.82	6.19
Group 2D	16.20	8.75	Group 15	15.85	6.19
Group 3	16.41	8.75	Group 16	15.86	6.19
Group 3A	17.04	8.75	Group 17	15.87	6.19
Group 4	17.82	8.75	Group 18	15.89	6.19
Group 5	18.08	8.75	Group 19	15.90	6.19
Group 6	19.71	8.75	Group 20	15.91	6.19
STEEL ERECTION:			Group 21	15.96	6.19
Group 1	14.79	8.75	Group 22	15.99	6.19
Group 2	15.33	8.75	Group 23	16.00	6.19
Group 3	16.81	8.75	Group 24	16.09	6.19
Group 4	17.00	8.75	Group 25	16.10	6.19
Group 4A	17.46	8.75	Group 26	16.10	6.19
Group 5	18.18	8.75	Group 27	16.13	6.19
Group 6	18.79	8.75	Group 28	16.15	6.19
Group 7	19.23	8.75	Group 29	16.19	6.19
Group 8	19.65	8.75	Group 30	16.20	6.19
Group 9	21.15	8.75	Group 31	16.23	6.19
			Group 32	16.29	6.19
			Group 33	16.22	6.19
			Group 34	16.44	6.19
			Group 35	16.54	6.19
			Group 36	16.59	6.19
			Group 37	16.74	6.19
			Group 38	16.89	6.19

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WELDERS - receive rate prescribed for craft performing operation to which welding is incidental

PAID HOLIDAYS:

A-New Year's Day; B-Memorial Day; C-Independence Day; D-Labor Day; E-Thanksgiving Day; F-Christmas Day

FOOTNOTES:

- Employer contributes 8% of basic hourly rate for over 5 years' service, and 6% of basic hourly rate for 6 months' to 5 years' service as Vacation Pay Credit. Six Paid Holidays: A through F
- Employer contributes \$.32 per hour to Holiday Fund plus \$.22 per hour to Vacation Fund for the first year of employment; 1 year but less than 5 years \$.42 per hour to Vacation Fund; 5 years but less than 10 years \$.60 per hour to Vacation Fund; over 10 years \$.80 per hour to Vacation Fund

AREA DESCRIPTIONS

BRICKLAYERS; STONEMASONS:

- Area 1: Del Norte, Humboldt, Lake, Marin, Mendocino, Napa, San Francisco, San Mateo, Siskiyou, Solano, Sonoma, and Trinity Cos.
 Area 2: Alameda and Contra Costa Counties
 Area 3: Fresno, Kings, Madera, Mariposa, and Merced Counties
 Area 4: Butte, Colusa, El Dorado, Glenn, Lassen, Modoc, Nevada, Placer, Plumas, Sacramento, Shasta, Sierra, Sutter, Tehama, Yolo, and Yuba Counties
 Area 5: Monterey and Santa Cruz Counties
 Area 6: San Benito and Santa Clara Counties
 Area 7: Alpine, Amador, Calaveras, San Joaquin, Stanislaus, and Tuolumne Counties
 Area 8: Tulare County

BRICK TENDERS:

- Area 1: Amador, El Dorado, Nevada, Placer, Sacramento, and Yolo Cos.
 Area 2: San Francisco and San Mateo Counties
 Area 3: Fresno, Kings, Madera, and Tulare Counties
 Area 4: Remaining Counties
 Area 5: Marin County
 Area 6: Alameda and Contra Costa Counties
 Area 7: Santa Cruz County
 Area 8: San Benito and Santa Clara Counties

CARPENTERS:

- Area 1: Alameda, Contra Costa, Marin, Napa, San Benito, San Francisco, San Mateo, Santa Clara, Solano and Sonoma Counties
 Area 2: Alpine, Amador, Butte, Calaveras, Colusa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Mariposa, Mendocino, Merced, Modoc, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Sierra, Siskiyou, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo, and Yuba Counties
 Area 3: (Residential) Calaveras, Del Norte, Humboldt, Mariposa, and Merced Counties
 Area 4: Monterey and Santa Clara Counties

AREA DESCRIPTIONS (Cont'd)

DRYWALL INSTALLERS/LATHERS:

Residential:

Area 1: Calaveras, Mariposa, Merced, and Tuolumne Counties

ELECTRICIANS:

Area 1: Alameda County

Area 2: Amador, Colusa, Sacramento, Sutter, Yolo, and Yuba Counties;

Alpine, El Dorado, Nevada, Placer, and Sierra Counties (those portions west of the Sierra Mountain Watershed)

Area 3: Lassen and Plumas Counties; those portions of Alpine,

El Dorado, Nevada, Placer, and Sierra Counties lying east of the Main Watershed Divide

Area 4: Butte, Glenn, Modoc, Shasta, Siskiyou, Tehama, and Trinity Counties

Area 5: Calaveras and San Joaquin Counties

Area 6: Contra Costa County

Area 7: Del Norte and Humboldt Counties

Area 8: Fresno, Kings, Madera, and Tulare Counties

Area 9: Lake, Marin, Mendocino, and Sonoma Counties

Area 10: Mariposa, Merced, Stanislaus, and Tuolumne Counties

Area 11: Monterey, San Benito, and Santa Cruz Counties

Area 12: Napa and Solano Counties

Area 13: Santa Clara County

Area 14: San Francisco County

Area 15: San Mateo County

GLAZIERS:

Area 1: Alameda, Contra Costa, Monterey, Napa, San Benito, Santa Clara, and Santa Cruz Counties

Area 2: Alpine, Amador, Butte, Calaveras, Colusa, El Dorado, Glenn, Lassen, Modoc, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Sierra, Siskiyou, Solano, Stanislaus, Sutter, Tehama, Tuolumne, Yolo, and Yuba Counties

Area 3: (Residential) Sutter and Yuba Counties

Area 4: (Residential) Amador, Calaveras, El Dorado, Nevada, Placer, Sacramento, San Joaquin, Solano, Tuolumne, and Yolo Counties

Area 5: Fresno, Madera, Mariposa, Merced, Kings, and Tulare Counties

Area 6: Del Norte and Humboldt Counties

Area 7: Lake, Marin, Mendocino, San Francisco, San Mateo, and Sonoma Counties

LINE CONSTRUCTION:

Area 1: Contra Costa County

Area 2: Del Norte, Modoc, and Siskiyou Counties:

Group 1: Cable Splicer, Leadman Pole Sprayer

Group 2: Lineman, Pole Sprayer, Heavy Line Equipment Man, Certified Lineman Welder

Group 3: Tree Trimmer

Group 4: Line Equipment Man

Group 5: Head Groundman, Powderman, Jackhammer Man

Group 6: Head Groundman (Chipper)

Group 7: Groundman

*Groups 3 and 6 receive BASE RATE (ZONE 1) Rate ONLY (no Zone Differential)

AREA DESCRIPTIONS (Cont'd)

LINE CONSTRUCTION: (Cont'd)

Area 2: (Cont'd)

Zone Definitions: Zone 1: 0 to 3 miles radius from the geographical center of Alturo and Yreka, California
 Zone 2: 3 to 20 miles radius
 Zone 3: 20 to 35 miles radius
 Zone 4: 35 to 50 miles radius
 Zone 5: Over 50 miles radius

BASE RATE (ZONE 1) is paid when working out employer's Permanent Shop

Area 3: Fresno, Kings, Madera, and Tulare Counties

Area 4: Calaveras and San Joaquin Counties

Area 5: Mariposa, Merced, Stanislaus, and Tuolumne Counties

Area 6: Monterey, San Benito, and Santa Cruz Counties

Area 7: Napa and Solano Counties

Area 8: Butte, Glenn, Lassen, Plumas, Shasta, Tehama, and Trinity Cos.

Area 9: Alameda County

Area 10: Amador, Colusa, Sacramento, Sutter, Yolo, and Yuba Counties;

Alpine, El Dorado, Nevada, Placer, and Sierra Counties (those portions west of the Main Sierra Mountain Watershed)

Area 11: San Mateo County

Area 12: Humboldt County

Area 13: San Francisco County

Area 14: San Clara County

Area 15: Lake, Marin, Mendocino, and Sonoma Counties

MARBLE and TILE FINISHERS:

Area 1: Alameda, Contra Costa, Del Norte, Humboldt, Lake, Marin, Mendocino, Monterey, Napa, San Benito, San Francisco, San Mateo, Santa Clara, Santa Cruz, Siskiyou, Sonoma, Solano, and Trinity Cos.

Area 2: Alpine, Amador, Butte, Calaveras, Colusa, El Dorado, Glenn, Lassen, Modoc, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Sierra, Stanislaus, Sutter, Tehama, Yolo, and Yuba Counties

PAINTERS:

Area 1: Alpine, Amador, Calaveras, and San Joaquin Counties

Area 2: Fresno, Kings, Madera, and Tulare Counties

Area 3: Mariposa, Merced, Stanislaus, and Tuolumne Counties

Area 4: San Benito, San Mateo, and Santa Clara Counties

Area 5: Monterey and Santa Cruz Counties

Area 6: Lassen County (that portion that lies eastward of Highway #395, northward to and including Honey Lake); Lake Tahoe Area

Area 7: Lake, Marin, Mendocino, San Francisco, and Sonoma Counties

Area 8: Butte, Colusa, and Glenn Counties; Lassen County (excluding the extreme SE corner); Modoc, Plumas, Shasta, Siskiyou, Sutter, Tehama, Trinity, and Yuba Counties

Area 9: Alameda, Contra Costa, El Dorado, Napa, Nevada, Solano, Sacramento, Sierra, Placer, and Yolo Counties (excluding portions of Counties in the Lake Tahoe Area)

Area 10: Del Norte and Humboldt Counties

AREA DESCRIPTIONS (Cont'd)

PARKING LOT STRIPING WORK and/or HIGHWAY MARKERS:

- Area 1: Fresno, Kings, and Tulare Counties
- Area 2: Remaining Counties

PLASTERERS:

- Area 1: Alameda and Contra Costa Counties
- Area 2: San Francisco and San Mateo Counties
- Area 3: Alpine, Amador, Butte, Calaveras, Colusa, El Dorado, Glenn, Lassen, Modoc, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Sierra, Siskiyou, Sutter, Tehama, Trinity, Yolo and Yuba Cos.
- Area 4: Del Norte, Humboldt, Lake, Marin, Mendocino, Napa, Solano, and Sonoma Counties
- Area 5: San Benito, Santa Clara, and Santa Cruz Counties
- Area 6: Fresno, Kings, Madera, and Tulare Counties
- Area 7: Monterey County
- Area 8: Mariposa, Merced, Stanislaus, and Tuolumne Counties

PLASTERERS' TENDERS:

- Area 1: Alameda and Contra Costa Counties
- Area 2: Fresno, Kings, Madera, and Tulare Counties
- Area 3: San Francisco and San Mateo Counties
- Area 4: Alpine, Amador, El Dorado, Nevada, Placer, Sacramento, Sierra and Yolo Counties
- Area 5: Calaveras and San Joaquin Counties
- Area 6: Marin County
- Area 7: Monterey County
- Area 8: San Benito, Santa Clara and Santa Cruz Counties
- Area 9: Solano County
- Area 10: Napa County

PLUMBERS:

- Area 1: Alameda County
- Area 2: Contra Costa County

PLUMBERS; STEAMFITTERS:

- Area 1: Amador County (northern half); Sacramento, Yolo, El Dorado, Nevada, Placer, and Sierra Counties (excluding Lake Tahoe Area)
- Area 2: Lake Tahoe Area
- Area 3: Marin, Mendocino, San Francisco, and Sonoma Counties
- Area 4: Alpine County; Amador County (southern portion); Butte, Calaveras, Colusa, Fresno, Glenn, Kings, Lassen, Madera, Mariposa, Merced, Modoc, Monterey, Plumas, San Joaquin, Santa Cruz, Shasta, Sierra, Siskiyou, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, and Yuba Counties
- Area 5: Lake, Napa, and Solano Counties
- Area 6: Del Norte and Humboldt Counties
- Area 7: San Benito and Santa Clara Counties
- Area 8: San Mateo County

ROOFERS:

- Area 1: Alameda and Contra Costa Counties
- Area 2: Alpine, Calaveras, Mariposa, Merced, San Joaquin, Stanislaus, and Tuolumne Counties

AREA DESCRIPTIONS (Cont'd)

ROOFERS: (Cont'd)

- Area 3: Butte, Colusa, El Dorado, Glenn, Lassen, Modoc, Placer, Plumas, Shasta, Sierra, Siskiyou, Sutter, Tehama, Trinity, and Yuba Counties
- Area 4: Fresno, Kings, Madera, and Tulare Counties
- Area 5: Lake, Marin, Mendocino, Napa, Solano, and Sonoma Counties
- Area 6: Del Norte and Humboldt Counties
- Area 7: Monterey and Santa Cruz Counties
- Area 8: San Francisco and San Mateo Counties
- Area 9: Amador, Sacramento, and Yolo Counties
- Area 10: San Benito and Santa Clara Counties

SHEET METAL WORKERS:

- Area 1: Alameda and Contra Costa Counties
- Area 2: Alpine, Calaveras, and San Joaquin Counties
- Area 3: Amador, Butte, Colusa, El Dorado, Glenn, Modoc, Plumas, Sacramento, Shasta, Sierra, Siskiyou, Sutter, Tehama, Yolo, and Yuba Counties
- Area 4: Mariposa, Merced, Stanislaus, and Tuolumne Counties
- Area 5: Monterey and San Benito Counties
- Area 6: Del Norte, Humboldt, and Trinity Counties
- Area 7: San Mateo County
- Area 8: Fresno, Kings, Madera, and Tulare Counties
- Area 9: San Francisco County
- Area 10: Marin, Mendocino, Sonoma, and Lake Counties
- Area 11: Santa Cruz Counties
- Area 12: Santa Clara County
- Area 13: Napa and Solano Counties

SOFT FLOOR LAYERS:

- Area 1: Alpine, Amador, Butte, Calaveras, Colusa, El Dorado, Glenn, and Lassen Counties (excluding Honey Lake Area); Merced County (east of San Joaquin River); Plumas, San Joaquin, Shasta, Sacramento, Stanislaus, Sutter, Tehama, Trinity, Tuolumne, Yolo, and Yuba Counties; El Dorado, Nevada, Placer, and Sierra Counties (those portions excluding Lake Tahoe Area)
- Area 2: Honey Lake Area and Lake Tahoe Area
- Area 3: Alameda, Contra Costa, Lake, Marin, Mendocino, Merced, Monterey, Napa, San Francisco, San Benito, San Mateo, Santa Clara, Santa Cruz, Solano, and Sonoma Counties
- Area 4: Del Norte and Humboldt Counties

SPRINKLER FITTERS:

- Area 1: Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma Counties
- Area 2: Remaining Counties

STEAMFITTERS:

- Area 1: Alameda and Contra Costa Counties

AREA DESCRIPTIONS (Cont'd)

TERRAZZO WORKERS:

- Area 1: Alameda, Contra Costa, Del Norte, Humboldt, Lake, Marin, Mendocino, Napa, San Francisco, San Mateo, Siskiyou, Solano, Sonoma, and Trinity Counties
- Area 2: Butte, Colusa, El Dorado, Glenn, Lassen, Modoc, Nevada, Placer, Plumas, Sacramento, Shasta, Sierra, Sutter, Tehama, Yolo, and Yuba Counties
- Area 3: San Benito and Santa Clara Counties

TILE SETTERS:

- Area 1: Alameda, Butte, Colusa, Contra Costa, Del Norte, El Dorado, Glenn, Humboldt, Lake, Lassen, Marin, Mendocino, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Francisco, San Mateo, Santa Clara, Shasta, Sierra, Siskiyou, Solano, Sonoma, Sutter, Tehama, Trinity, Yolo, and Yuba Counties
- Area 2: Alpine, Amador, Calaveras, San Joaquin, Stanislaus, and Tuolumne Counties

TERRAZZO WORKERS and TILE SETTERS:

- Area 1: Fresno, Kings, Madera, Mariposa, Merced, and Tulare Counties
- Area 2: Monterey and Santa Cruz Counties

TERRAZZO FINISHERS:

- Area 1: Alpine, Calaveras, Alameda, Monterey, San Joaquin, San Benito, Stanislaus, and Santa Clara Counties

LABORERS

- Area 1: Alameda, Contra Costa, Marin, San Francisco, San Mateo, and Santa Clara Counties
- Area 2: Remaining Counties

Group 1: Asphalt Ironers and Rakers; Asphalt Spreader Boxes (all types); Barko, Wacker and similar type Tampers; Buggymobile; Chain-saw, Faller, Logloader and Bucker; Compactors of all types; Concrete and Magnesite Mixer, 1/2 yd. and under; Concrete Pan Work; Concrete Saw; Concrete Sander; Cribber and/or Shoring; Cut Granite Curb Setter; Form Raisers; Slip Forms; Green Cutters, Headerboardmen, Hubsetters, Aligners; Jackhammer Operators; Jacking of Pipe over 12 inches; Jackson and similar type Compactors; Kettlemen, Potmen and Men applying asphalt, lay-kold, creosote, lime, caustic and similar type materials; Lagging, Sheeting, Whaling, Bracing, Trenchjacking, hand-guided Lagging Hammer; Magnesite, Epoxyresin, Fiberglass, Mastic Workers (wet or dry); Perma Curbs; Precast-manhole Setters; Cast-in-place Manhole Form Setters; Pressure Pipe Tester; Pavement Breakers and Spaders, including Tool Grinder; Pipelayers, Caulkers, Banders, Pipewrappers, Conduit Layers, Plastic Pipelayers; Post Hole Diggers, air, gas, and electric; Power Broom Sweepers; Power Tampers of all types (except as shown in Group 2); Ram Set Gun and Stud Gun; Riprap-stonepaver and Rock-slinger, including placing of sacked concrete and/or sand (wet or dry); Rotary Scarifier, Multiple Head Concrete Chipper; Davis Trencher, 300 or similar type (and all small Trenchers); Roto and Ditch Witch; Roto-tiller; Sandblasters, Potmen, Gunman, Nozzle-man; Signalling and Rigging; Tank Cleaners; Tree Climbers; Vibra-screed, Bull Float in connection with Laborers' work; Vibrators; Dripak-it Machine; High Pressure Blow Pipe (1 1/2" or over, 100 lbs. pressure and over); Hydro Seeder and similar type; Laser Beam in connection with Laborers' work

Group 1(a): Joy Drill Model TWM-2A; Gardener-Denver Model DH143 and similar type drills; Track Drillers; Jack Leg Drillers; Diamond Drillers; Wagon Drillers; Mechanical Drillers, all types regardless of type or method of power; Multiple Unit Drills; Blasters and Powdermen; all work of loading, placing and blasting of all power and explosives of whatever type regardless of method used for such loading and placing; High Scales (including drilling of same); Tree Topper; Bit Grinder

Group 1(b): Sewer Cleaners receive an additional \$4.00 per day, \$5.00 per day on recently active large diameter sewers or sewer manholes

Group 1(c): Burning and Welding in connection with Laborers' work

Group 1(d): Repair Trackmen and Road Beds (cut and cover work of subway after the temporary cover has been placed)

Group 1(e): Laborers on general construction work on or in Bell Hole Footings and Shaft

Group 1(f): Wire Winding Machine in Connection with Guniting or Shotcrete - Aligner

LABORERS - AREAS 1 and 2 (Cont'd)

Group 1(g): Contra Costa County Only: Pipelayers, Caulkers, Banders, Pipewrappers, Conduit Layers and Plastic Pipelayers; Pressure Pipe Tester, no joint pipe and stripping of same, including repair of Voids, Precast Manhole Setters, Cast-in-place Manhole Form Setters

Group 2: Asphalt Shovelers; Cement Dumpers and handling dry cement or gypsum; Choke-setter and Digger (clearing work); Concrete Bucket Dumper and Chuteman; Concrete Chipping and Grinding; Concrete Laborers (wet or dry); Chuck Tender; High Pressure Nozzleman, Adductors; Grout-crew; Hydraulic Monitor (over 100 lbs. pressure); Loading and unloading, carrying and hauling of all rods and materials for use in reinforcing concrete construction; Pittsburgh Chipper and similar type Brush Shredders; Sloper; Singlefoot, hand held, Pneumatic Tamper; All pneumatic, air, gas and electric tools not listed in Groups 1 through 1(f); Jacking or Pipe under 12 inches

Group 3: All Cleanup work of debris, grounds and buildings including but not limited to street cleaners; Cleaning and washing windows; Construction Laborers including Bridge and General Laborers; Dumpman; Load Spotter; Fire Watcher; Street Cleaners; Gardeners, Horticultural and Landscape Laborers; Jetting; Limbers; Brush Loaders; Pilers, Maintenance Landscape Laborers on new construction; Maintenance, Repair Trackmen and Road beds; Streetcar and Railroad Construction Track Laborers; Temporary air and water lines, Victaulic or similar; Tool Room Attendant; Fence Erectors; Guardrail Erectors; Pavement Markers (button setters)

Group 4: Brick Cleaners, Lumber Cleaners, and Landscape Maintenance (such as Gardeners, Horticultural, mowing, trimming, replanting, watering)

GUNNITE

Group 1: Nozzleman (including Gunman, Potman); Rodmen, Groundman

Group 2: Reboundman

Group 3: General Laborers

TUNNEL and SHAFT WORK

Group 1: Diamond Driller; Groundman; Guniting and Shotcrete Nozzlemen; Rodmen; Shaft Work and Raise (below actual or excavated ground level)

LABORERS - AREAS 1 and 2 (Cont'd)

TUNNEL and SHAFT WORK (Cont'd)

Group 2: Bit Grinder; Blaster; Drillers, Powderman-heading; Cherry Pickermen - where car is lifted; Concrete Finisher in Tunnel; Concrete Screed Man; Grout Pumpman and Potman; Guniting and Shotcrete Gunmen and Potmen; Headermen; High Pressure Nozzleman; Miners - Tunnel, including Top and Bottom Man on Shaft and Raise Work; Nipper Nozzleman on slick line; Sandblaster-Potman (work assignment interchangeable) Steel Form Raisers and Setters; Timberman, Retimberman - wood or steel or substitute materials therefore; Tugger

Group 3: Cabletender; Chucktender; Powderman - Primer House; Vibratormen, Pavement Breakers

Group 4: Bull Gang - Muckers, Trackmen; Concrete Crew - includes rodding and spreading; Dumpmen (any method); Grout Crew Reboundmen; Swamper

WRECKING WORK

Group 1: Skilled Wrecker (removing and salvaging of sash, windows, doors, plumbing and electric fixtures)

Group 2: Semi-skilled Wrecker (salvaging of other building materials)

Group 3: General Laborer (includes all cleanup work, loading lumber, loading and burning of debris)

HOUSEMOVING

Group 1: Skilled Housemover

POWER EQUIPMENT OPERATORS
AREAS I and II

Group 1: Assistants to Engineers (Brakeman; Fireman; Heavy Duty Repairman Tender; Oiler; Deckhand; Signaller; Switchman; Tar Pot Fireman); Partsman (heavy duty repair shop parts room)

Group 2: Compressor Operator; Concrete Mixer (up to and including 1 yd.); Conveyor Belt Operator (tunnel); Fireman Hot Plant; Hydraulic Monitor; Mechanical Conveyor (handling building materials); Mixer Box Operator (concrete plant); Pump Operator; Spreader Boxman (with screeds); Tar Pot Fireman (power agitated)

POWER EQUIPMENT OPERATORS (Cont'd)
AREAS I and II (Cont'd)

Group 3: Box Operator (bunker); Helicopter Radioman (Signalman); Motor-man; Locomotive (30 tons or under); Oiler; Ross Carrier (construction job site); Rotomist Operator; Screedman (except asphaltic concrete paving); Self-propelled, automatically applied concrete curing machine (on streets, highways, airports and canals); Trenching Machine (maximum digging capacity 5 ft. depth); Tugger Hoist, single drum; Truck Crane Oiler; Boiler Tender

Group 4: Ballast Jack Tamper; Ballast Regulation; Ballast Tamper Multi-purpose; Boxman (asphalt plant); Elevator Operator (inside); Fork Lift or Lumber Stacker (construction job site); Line Master; Material Hoist (1 drum); Shuttlecar; Tie Spacer; Towermobile

Group 5: Compressor Operator (over 2); Concrete Mixers (over 1 yd.); Concrete Pumps of Pumpcrete Guns; Generators; Grouting Machine; Pressweld (air operated); Pumps (over 1); Welding Machines (powered other than by electricity)

Group 6: BLH Lima Road Pactor or similar; Boom Truck or Dual Purpose A-Frame Truck; Concrete Batch Plants (wet or dry); Concrete Saws (Self-propelled unit) on streets, highways, airports and canals; Drilling and Boring Machinery, vertical and horizontal (not to apply to Waterliners, Wagon Drills or Jackhammers); Gradesetter, Grade Checker (mechanical or otherwise); Highline Cableway Signalman; Locomotives (steam of over 30 tons); Maginnis Internal Full Slab Vibrator (on airports, highways, canals and warehouses); Mechanical Finishers (concrete) (Clary, Johnson, Bidwell Bridge Deck or similar types); Mechanical Burn, Curb and/or Curb and Gutter Machine, concrete or asphalt; Portable Crusher; Post Driver (M-1500 and similar); Power Jumbo Operator (setting slip forms, etc. in tunnels); Roller (except asphalt); Screedman (Barber-Greene and similar) (asphaltic concrete paving); Self-propelled Compactor (single engine); Self-propelled Pipeline Wrapping Machine, Perault, CRC, or similar types); Slip Forms Pumps (lifting device for concrete forms); Small Rubber Tired Tractor; Surface Heater; Self-propelled Power Sweeper; Self-propelled Tape Machine; Auger-type drilling equipment, up to and including 30 ft. depth digging capacity M.R.C.

Group 7: Concrete Conveyor or Concrete Pump, Truck or equipment mounted (boom length to apply); Concrete Conveyor, building site; Deck Engineers; Dual Drum Mixer; Fuller Kenyon Pump and similar types; Gantry Rider (or similar); Hydra-hammer (or similar); Material Hoist (2 or more drums); Mechanical Finishers or Spreader Machine (asphalt, Barber-Greene and similar); Mine or Shaft Hoist; Mixermobile; Pavement Breaker with or without Compressor; Combination; Pipe Bending Machine (pipelines only); Pipe Cleaning Machine (tractor propelled and supported); Pipe Wrapping Machine (tractor propelled and supported); Refrigeration Plant; Roller Operator (finish asphalt); Self-propelled boom type lifting device (center mount) (10 tons or less M.R.C.); Self-propelled Elevating Grader Plane; Slusher Operator; Small Tractor (with boom); Soil Tester; Truck type Loader; Welding Machines (gasoline or diesel)

POWER EQUIPMENT OPERATORS (Cont'd)
AREAS I and II (Cont'd)

Group 8: Armor-Coater (or similar); Asphalt Plant Engineer; Cast-in-place Pipe Laying Machine; Combination Slusher and Motor Operator; Concrete Batch Plant (multiple units); Dozer; Heading Shield Operator; Heavy Duty Repairman and/or Welder; Ken Seal Machine (or similar); Kolman Loader; Loader (up to 2 yds.); Mechanical Trench Shield; Portable Crushing and Screening Plants; Push Cat; Rubber Tired Earth-moving Equipment (up to and including 45 cu. yds. "struck" M.R.C) Euclids, T-Pulls, DW-10, 20, 21, and similar; Rubber Tired Dozer; Self-propelled Compactor with Dozer; Sheepfoot; Timber Skidder (rubber tired or similar equipment); Tractor drawn Scraper; Tractor; Trenching Machine; Tri-batch Paver; Tunnel Mole Boring Machine; Welder; Woods-mixer (and other similar Pugmill equipment)

Group 9: Canal Finger Drain Digger; Chicago Boom; Combination Mixer and Compressor (Gunitite); Combination Slurry Mixer and/or Cleaner; Highline Cableway (5 tons and under); Lull Hi-lift or similar (20 ft. or over); Mucking Machine (rubber tired, rail or track type); Tractor (with boom) (D-6 or larger and similar)

Group 10: Boom-type Backfilling Machine; Bridge Crane; Cary-lift (or similar); Chemical Grouting Machine, truck mounted; Combination Backhoe and Loader (up to and including 1/2 cu. yd. M.R.C.); Derrick (2 operators required when swing engine remote from Hoist); Derrick Barges (except excavation work); Do-mor Loader; Adams Ele-grader; Elevating Grader; Heavy Duty Rotoary Drill Rig (including Caisson Foundation work and Euclid Loader and similar type; Robbins type drills); Koehring Skooter (or similar); Lift Slab Machine (Vagtborg and similar types); Loader (2 yds. up to and including 4 yds.); Locomotive, 100 tons (single or multiple units); Multiple Engine Earthmoving Machine (Euclids, Dozers, etc.) (no tandem Scraper); Pre-stress Wire Wrapping Machine; Reservoir-debris Tug (self-propelled floating); Rubber-tired Scraper, Self-loading (paddle wheels, etc.); Shuttle Car (reclaim station); Single engine Scraper over 45 yds.; Soil Stabilizer (P & H or equal); Sub-grader (Gurrier or other automatic type); Tractor, Compressor Drill Combination; Track Laying type Earth Moving Machine (single engine with Tandem Scrapers); Train Loading Station; Trenching Machine, multi-engine with slipping attachment, Jeffco or similar; Vacuum Cooling Plant; Whirley Crane (up to and including 25 tons)

Group 10-A: Backhoe (Hydraulic) (up to and including 1 cu. yd. M.R.C.); Backhoe (cable) (up to and including 1 cu. yd. M.R.C.); Combination Backhoe and Loader (over 3/4 cu. M.R.C.); Continuous Flight Tie Back Auger (Crane attached/separate controls); Cranes not over 25 tons, Hammerhead and Gantry; Gradalls (up to and including 1 cu. yd.); Power Blade Operator (single engine); Power Shovels, Clamshells, Draglines (up to and including 1 cu. yd. M.R.C.) (Long Boom Pay); Rubber-tired Scraper, self-loading (Paddle Wheel, twin engine); Self-propelled Boom-type lifting device (center mount) (over 10 tons up to and including 25 tons); CMI Dual Lane Auto Grader SP-30 or similar

POWER EQUIPMENT OPERATORS (Cont'd)
AREAS I and II (Cont'd)

Group 11: Automatic Concrete Slip-form Paver (Gradesetter, Screed-man); Automatic Railroad Car Dumper; Canal Trimmer with ditching attachments; Cary Lift, Campbell or similar, Continuous Flight Tie Back Auger (Crane attached, single controls); Cranes (over 25 tons up to and including 125 tons); Drott Travellift 650-A-1 or similar (45 ton or over); Euclid Loader when controlled from the Pullcat; Highline Cableway (over 5 tons); Loader (over 4 cu. yds., up to and including 12 cu. yds.); Miller Formless M-900 Slope Paver or similar (Grade Setter required); Multiple Engine Scraper (when used as Push Pull); Power Blade Operator (multi-engine); Power Shovels, Clamshells, Draglines, Backhoes, Gradalls (over 1 cu. yd. and up to and including 7 cu. yds. M.R.C., Long Boom Pay); Rubber-tired Earthmoving Machines (multiple propulsion power units and two or more Scrapers) (up to and including 75 cu. yds. Struck M.R.C.); Self-propelled Compactor Boom-type lifting device (center mount) (over 25 tons M.R.C.); Single engine Rubber-tired Earthmoving Machines (with Tandem Scrapers); Slip-form Paver (concrete or asphalt) (Screedman required); Tandem Cats; Tower Canres Mobile (including rail mounted); Trencher (pulling attached shield); Tower Cranes, Universal Liebherr and similar types (in the erection, dismantling and moving of equipment); Wheel Excavator (up to and including 750 cu. yds. per hour); Whirley Crane (over 25 tons); Multi-earthmoving Equipment (up to and including (75) cu. yds. "struck" M.R.C.); Truck mounted Hydraulic Crane when remote control equipped (over 10 tons up to and including 25 tons)

Group 11-A: Band Wagons (in conjunction with wheel excavator); Cranes (over 125 tons); Loader (over 12 cu. yds., up to and including 18 cu. yds.); Power Shovels, Clamshells, Backhoes, Gradalls, and Draglines (over 7 cu. yds. M.R.C.); Rubber-tired Multi-purpose Earth Moving Machines (2 units over 75 cu. yds. "struck" M.R.C.); Wheel Excavator (over 750 cu. yds. per hour)

Group 11-B: Loader (over 18 yards)

Group 11-C: Operator of Helicopter (when used in erection work); Remote controlled Earthmoving equipment

POWER EQUIPMENT OPERATORS (Cont'd)

DREDGING

AREA DEFINITIONS FOR SCHEDULES I and II

Four Centers designated: City Halls of Oakland, San Francisco, Sacramento and Stockton, California

Area 1: Up to 20 road miles from said Centers

Area 2: More than 20 road miles to and including 30 road miles from said Centers

Area 3: Outside of 30 road miles from said Centers

Area 4: An area extending 25 road miles from shoreline of Lake Tahoe

SCHEDULE I

CLAMSHELL and DIPPER DREDGING (New Construction)

Group 1: Bargeman; Deckhand; Fireman; Oiler

Group 2: Deck Engineers; Deck Mate

Group 3: Welder; Mechanic Welder; Watch Engineer

Group 4: Clamshell Operator (up to and including 7 cu. yds. M.R.C.) (Long Boom Pay)

Group 4A: Clamshell Operator (over 7 cu. yds. M.R.C.) (Long Boom Pay)

SCHEDULE II

HYDRAULIC SUCTION DREDGING and all other CLAMSHELL and DIPPER DREDGING

Group A-1: Bargeman; Deckhand; Leveehand; Fireman; Oiler

Group A-2: Winchman (Stern Winch on Dredge); Deck Engineer

Group A-3: Watch Engineer; Welder; Welder Mechanic; Deckmate; Booster Pump Operator (Mud Cat)

Group A-4: Leverman; Clamshell Operator

PILEDIVING

Group 1: Assistant to Engineer (Fireman, Oiler, Deckhand)

Group 1A: Compressor Operator

Group 1B: Assistant to Engineer (Truck Crane Oiler)

Group 2A: Tugger Hoist Operator (hoisting material only)

Group 2B: Forklift Operator

POWER EQUIPMENT OPERATORS (Cont'd)
FILEDRIVING (Cont'd)

Group 2C: Compressor Operator (over 2); Generators; Pumps (over 4); Welding Machines (powered by other than electricity)

Group 2D: A-Frames

Group 3: Deck Engineer (Deck Engineer Operator required when deck engine is used); Self-propelled Boom-type lifting device (center mount) (10 ton capacity or less M.R.C.)

Group 3A: Heavy Duty Repairman and/or Welder

Group 4: Operating Engineer in lieu of Assistant to Engineer tending boiler or compressor attached to Crane Piledriver; Operator of Piledriving Rigs, Skid or Floating and Derrick Barges (Assistant to Engineer required); Operator of diesel or gasoline power Crane Piledriver (without boiler) up to and including 1 cu. yd. rating (Assistant to Engineer required); Self-propelled Boom-type lifting device (center mount) (over 10 tons up to and including 25 tons); Truck Crane Operator (up to and including 25 tons) (hoisting material only (Assistant to Engineer required)

Group 5: Operator of diesel or gasoline powered Crane Piledriver (with boiler) over 1 cu. yd. rating (Assistant to Engineer required); Operator of Crane (with steam, flash boiler, pump or compressor attached) (Group 4 Engineer required); Operator of steam powered Crawler or Universal type Driver (Raymond or similar) (Assistant to Engineer required) Truck Crane Operator (over 25 tons) (hoisting material or performing Piledriving work) (Assistant to Engineer required); Self-propelled Boom-type lifting device (center mount) (over 25 tons) (Assistant to Engineer required)

Group 6: Cranes (over 125 tons) (Assistant to Engineer required)

STEEL ERECTION

Group 1: Assistant to Engineer (Oiler)

Group 2: Compressor Operator, Generator, gasoline or diesel driven (100 K.W. or over) (structural steel or tank construction only)

Group 3: Compressors, Generators and/or Welding Machines or combination (2 to 6) (Over 6 additional Engineers required) (structural steel or tank erection only)

Group 4: Heavy Duty Repairman, Tractor Operator

Group 4A: Combination Heavy Duty Repairman and/or Welder

POWER EQUIPMENT OPERATORS (Cont'd)
STEEL ERECTION (Cont'd)

Group 5: Boom Truck or Dual Purpose A-Frame Truck; Boom Cat; Chicago Boom; Crawler Cranes and Truck Cranes (15 tons M.R.C. or less) (Assistant to Engineer required); Self-propelled Boom type lifting device (center mount) (10 ton capacity or less M.R.C.); Single drum Hoist; Tugger Hoist

Group 6: Cary Lift, Campbell or similar; Crawler Cranes and Truck Cranes (over 15 tons M.R.C.) (Assistant to Engineer required); Derricks (2 Operators when swing engine remote from hoist); Gantry Rider (or similar equipment); Highline Cableway (Signalman required); Self-propelled Boom-type lifting device (center mount) (over 10 tons up to and including 25 tons); Tower Cranes Mobile including rail mounted (Assistant to Engineer required); Tower Cranes, Universal Liebherr and similar types (in the erection, dismantling and moving of equipment there shall be an additional Operating Engineer)

Group 7: Self-propelled Boom-type lifting device (center mount) (over 25 tons) (Assistant to Engineer required)

Group 8: Cranes (over 125 tons) (Assistant to Engineer required)

Group 9: Helicopter Operator

TRUCK DRIVERS

Group 1: Bulk Cement Spreader (w/wo Auger, under 4 yds. water level); Bus or Manhaul Driver; Concrete Pump Machine; Concrete Pump Truck (when Flat Rack Truck is used appropriate Flat Rack rate shall apply); Dump (under 4 yds. water level); Dumpcrete Truck (under 4 yds. water level); Dumpster (under 4 yds. water level); Escort or Pilot Car Driver; Nipper Truck (when Flat Rack Truck is used appropriate Flat Rack rate shall apply); Pickups; Skids (Debris Box, under 4 yds. water level); Team Drivers; Trucks (Dry Pre-batch Concrete Mix, under 4 yds. water level); Warehousemen

Group 2: Teamster Oiler and/or Greaser and/or Service Man

Group 3: Bulk Cement Spreader (w/wo Auger, 4 yd. and under 6 yds. water level); Dump (4 yds. and under 6 yds. water level); Dumpcrete (4 yds. and under 6 yds. water level); Dumpster (4 yds. and under 6 yds. water level); Skids (Debris Box, 4 yds. and under 6 yds. water level); Single Unit Flat Rack (2 axle unit); Industrial Lift Truck (mechanical Tailgate); Trucks (Dry Pre-batch Concrete Mix, 4 yds. and under 6 yds. water level)

Group 4: Jetting Truck and Water Truck (under 2,500 gallons)

Group 5: Road Oil Trucks or Boot Man

TRUCK DRIVERS (Cont'd)

- Group 6: Lift Jitneys, Fork Lift
- Group 7: Transit Mix, Agitator (under 6 yds.)
- Group 8: Fuel and/or Grease Truck Driver or Fuelman
- Group 9: Vacuum Truck, under 3,500 gallons
- Group 10: Scissor Truck; single unit Flat Rack (2 axle unit); Industrial Lift Truck (mechanical tailgate); Small rubber tired tractor (when used within Teamsters' jurisdiction)
- Group 11: Jetting Truck and Water Trucks, 2,500 gallons and under 4,000 gallons
- Group 12: Combination Winch Truck with Hoist; Transit Mix Agitator (6 yds. and under 8 yds.)
- Group 13: Vacuum Truck, 3,500 gallons and under 5,500 gallons
- Group 14: Rubber-tired Muck Car (not self-loaded)
- Group 15: Bulk Cement Spreader (w/wo Auger, 6 yds. and under 8 yds. water level); Dump (6 yds. and under 8 yds. water level); Dumpcrete (6 yds. and under 8 yds. water level); Dumpster (6 yds. and under 8 yds. water level); Skids (Debris Box, 6 yds. and under 8 yds. water level); Trucks (Dry Pre-batch Concrete Mix, 6 yds. and under 8 yds. water level)
- Group 16: A-Frame, Winch Truck; Buggymobile; Jetting and Water Truck (4,000 gallons and under 5,000 gallons); Rubber tired Jumbo
- Group 17: Heavy Duty Transport (high bed)
- Group 18: Ross Hyster and similar Straddle Carrier
- Group 19: Transit Mix Agitator (8 yds. through 10 yds.)
- Group 20: Vacuum Truck (5,500 gallons and 7,500 gallons)
- Group 21: Jetting Truck and Water Truck (5,000 gallons and under 7,000 gallons)
- Group 22: Combination Bootman and Road Oiler
- Group 23: Transit Mix Agitator (over 10 yds. through 12 yds.)
- Group 24: Bulk Cement Spreader (w/wo Auger, 8 yds. and including 12 yds. water level); Dump (8 yds. and including 12 yds. water level); Dumpcrete (8 yds. and including 12 yds. water level); Self-propelled Street Sweeper with self-contained refuse bin; Skids (Debris Box, 8 yds. and including 12 yds. water level); Snow Go and/or Snow Plow; Truck (Dry Pre-batch Concrete Mix, 8 yds. and including 12 yds. water level)

TRUCK DRIVERS (Cont'd)

- Group 25: Heavy Duty Transport (Gooseneck Lowbeb)
- Group 26: Transit Mix Agitator (over 12 yds. through 17 yds.)
- Group 27: Ammonia Nitrate Distributor Driver and Mixer; Bulk Cement Spreader (w/wo Auger, over 12 yds. and including 18 yds. water level); Dump (over 12 yds., and including 18 yds. water level); Dumpcrete over 12 yds. and including 18 yds. water level); Dumpster (over 12 yds. and including 18 yds. water level); Truck (Dry Pre-batch Concrete Mix, over 12 yds. and including 18 yds. water level)
- Group 28: Double Gooseneck (7 or more axles); Heavy Duty Transport Tiller Man
- Group 29: P.B. or similar type self-loading Truck
- Group 30: Transit Mix Agitator (over 14 yds. through 16 yds.)
- Group 31: Bulk Cement Spreader (w/wo Auger, over 18 yds. and including 24 yds. water level); Combination Dump and Dump Trailer; Dump (over 18 yds. and including 24 yds. water level); Dumpcrete (over 18 yds. and including 24 yds. water level); Dumpster (over 18 yds. and including 24 yds. water level); Skid (Debris Box, over 18 yds. and including 24 yds. water level); Transit Mix Agitator (over 12 yds. through 16 yds.); Trucks (Dry Pre-batch Concrete Mix, over 18 yds. and including 24 yds. water level)
- Group 32: Bulk Cement Spreader (w/wo Auger, over 24 yds. and including 35 yds. water level); Dump (over 24 yds. and including 35 yds. water level); Dumpcrete (over 24 yds. and including 35 yds. water level); Dumpster (over 24 yds. and including 35 yds. water level); DW 10's, 20's, 21's and other similar Cat type, Terra Cobra, LeTournapulls, Tournarocker, Euclid and similar type equipment when pulling Fuel and/or Grease Tank Trailers or other misc. Trailers; Skids (Debris Box, over 24 yds. and including 35 yds. water level); Trucks (Dry Pre-batch Concrete Mix, over 24 yds. and including 35 yds water level)
- Group 33: Truck Repairman
- Group 34: Bulk Cement Spreader (w/wo Auger, over 35 yds. and including 50 yds. water level); Dump (over 35 yds. and including 40 yds. water level); Dumpcrete (over 35 yds. and including 50 yds. water level); Dumpster (over 35 yds. and including 50 yds. water level); Skids (Debris Box, over 35 yds. and including 50 yds. water level); Trucks (Dry Pre-batch Concrete Mix, over 35 yds. and including 50 yds. water level)
- Group 35: DW 10's 20's, 21's and other similar Cat type, Terra Cobra, LeTournapulls, Tournarocker, Euclid and similar type equipment when pulling Aqua/Pak or Water Tank Trailers

TRUCK DRIVERS (Cont'd)

Group 36: Bulk Cement Spreader (w/wo Auger, over 50 yds. and under 65 yds. water level); Dump (over 50 yds. and under 65 yds. water level); Dumpcrete (over 50 yds. and under 65 yds. water level); Dumpster (over 50 yds. and under 65 yds. water level); Helicopter Pilot (when transporting men or materials); Skids (Debris Box, over 50 yds. and under 65 yds. water level); Trucks (Dry Pre-batch Concrete Mix, over 50 yds. and under 65 yds. water level)

Group 37: Bulk Cement Spreader (w/wo Auger, over 65 yds. and including 80 yds. water level); Dump (65 yds. and including 80 yds. water level); Dumpcrete (over 65 yds. and including 80 yds. water level); Dumpster (over 65 yds. and including 80 yds. water level); Skids (Debris Box, 65 yds. and including 80 yds. water level); Trucks (Dry Pre-batch Concrete Mix, 65 yds. and including 80 yds. water level)

Group 38: Bulk Cement Spreader (w/wo Auger, over 80 yds. and including 95 yds. water level); Dump (over 80 yds. and including 95 yds. water level); Dumpcrete (over 80 yds. and including 95 yds. water level); Dumpster (over 80 yds. and including 95 yds. water level); Skids (Debris Box, over 80 yds. and including 95 yds. water level); Trucks (Dry Pre-batch Concrete Mix, over 80 yds. and including 95 yds. water level)

AREA DESCRIPTIONS
FOR
POWER EQUIPMENT OPERATORS
AREAS I and II

**AREA I: All areas included in the description defined below which is based upon Township and Range Lines of AREAS I and II.

Commencing in the Pacific Ocean on the extension of the Southerly line of Township 19S.

Thence Easterly along the Southerly line to Township 19S, crossing the Mt. Diablo Meridian to the S.W. corner of Township 19S, range 6E, Mt. Diablo Base Line and Meridian, Thence Southerly to the S.W. corner of township 20S, range 6E, Thence Easterly to the S.W. corner of township 20S, range 13E, Thence Southerly to the S.W. corner of township 21S, range 13E, Thence Easterly to the S.W. corner of township 21S, range 17E, Thence Southerly to the S.W. corner of township 22S, range 17E, Thence Easterly to the S.E. corner of township 22S, range 17E, Thence Southerly to the S.W. corner of township 23S, range 18E, Thence Easterly to the S.E. corner of township 23S, range 18E, Thence Southerly to the S.W. corner of township 24S, range 19E, falling on the Southerly Line of Kings County, thence Easterly along the Southerly Boundary of Kings County and the Southerly Boundary of Tulare County, to the S.E. corner of township 24S, range 29E,

AREA DESCRIPTIONS (Cont'd)
FOR
POWER EQUIPMENT OPERATORS
AREAS I and II

Thence Northerly to the N.E. corner of township 21S, range 29E,
Thence Westerly to the N.W. corner of township 21S, range 29E,
Thence Northerly to the N.E. corner of township 13S, range 28E,
Thence Westerly to the N.W. corner of township 13S, range 28E,
Thence Northerly to the N.E. corner of township 11S, range 27E,
Thence Westerly to the N.W. corner of township 11S, range 27E,
Thence Northerly to the N.E. corner of township 10S, range 26E,
Thence Westerly to the N.W. corner of township 10S, range 26E,
Thence Northerly to the N.E. corner of township 9S, range 25E,
Thence Westerly to the N.W. corner of township 9S, range 25E,
Thence Northerly to the N.E. corner of township 8S, range 24E,
Thence Westerly to the N.W. corner of township 8S, range 24E,
Thence Northerly to the N.E. corner of township 6S, range 23E,
Thence Westerly to the S.E. corner of township 5S, range 19E,
Thence Northerly to the S.E. corner of township 5S, range 19E,
Thence Westerly to the N.W. corner of township 5S, range 19E,
Thence Northerly to the N.E. corner of township 3S, range 18E,
Thence Westerly to the N.W. corner of township 3S, range 18E,
Thence Northerly to the N.E. corner of township 2S, range 17E,
Thence Westerly to the N.W. corner of township 2S, range 17E,
Thence Northerly crossing the Mt. Diablo Baseline to the N.E. corner of township 2N, range 16E,
Thence Westerly to the N.W. corner of township 2N, range 16E,
Thence Northerly to the N.E. corner of township 3N, range 15E,
Thence Westerly to the N.E. corner of township 3N, range 15E,
Thence Northerly to the N.E. corner of township 4N, range 14E,
Thence Westerly to the N.W. corner of township 4N, range 14E,
Thence Northerly to the N.E. corner of township 5N, range 13E,
Thence Westerly to the N.E. corner of township 5N, range 13E,
Thence Northerly to the N.E. corner of township 10N, range 12E,
Thence Easterly to the S.E. corner of township 11N, range 14E,
Thence Northerly to the N.E. corner of township 11N, range 14E,
Thence Westerly to the N.E. corner of township 11N, range 10E,
Thence Northerly to the N.E. corner of township 15N, range 10E,
Thence Easterly to the S.E. corner of township 16N, range 11E,
Thence Northerly to the N.E. corner of township 16N, range 11E,
Thence Easterly to the S.E. corner of township 17N, range 14E,
Thence Southerly to the S.W. corner of township 14N, range 14E,
Thence Easterly to the S.E. corner of township 14N, range 15E,
Thence Southerly to the S.W. corner of township 13N, range 16E,
Thence Easterly to the S.E. corner of township 13N, range 16E,
Thence Southerly to the S.W. corner of township 12N, range 17E,
Thence Easterly along the Southern Line to township 12N to the Eastern Boundary of the State of California, to the State of California to the N.E. corner of township 17N, range 18E,
Thence Westerly to the N.W. corner of township 17N, range 11E,
Thence Northerly to the N.E. corner of township 20N, range 10E,

AREA DESCRIPTIONS (Cont'd)
FOR
POWER EQUIPMENT OPERATORS
AREAS I and II

Thence Westerly to the N.W. corner of township 20N, range 20E,
Thence Northerly to the N.E. corner of township 21N, range 9E,
Thence Westerly to the N.W. corner of township 21N, range 9E,
Thence Northerly to the N.E. corner of township 22N, range 8E,
Thence Westerly to the N.W. corner of township 27N, range 8E,
Thence Northerly to the S.W. corner of township 27N, range 8E,
Thence Easterly to the S.E. corner of township 27N, range 8E,
Thence Northerly to the N.E. corner of township 28N, range 8E,
Thence Westerly to the N.W. corner of township 28N, range 7E,
Thence Northerly to the N.E. corner of township 30N, range 6E,
Thence Westerly to the N.W. corner of township 30N, range 1E,
Thence Northerly along the Mt. Diablo Meridian to the N.E. corner
of Township 34N, range 1W,
Thence Westerly to the N.W. corner of township 34N, range 6W,
Thence Southerly to the N.E. corner of township 32N, range 7W,
Thence Westerly to the N.W. corner of township 32N, range 7W,
Thence Southerly to the S.W. corner of township 30N, range 7W,
Thence Easterly to the S.E. corner of township 30N, range 7W,
Thence Southerly to the S.W. corner of township 16N, range 6W,
Thence Easterly to the S.E. corner of township 16N, range 6W,
Thence Southerly to the S.W. corner of township 14N, range 5W,
Thence Westerly to the S.E. corner of township 14N, range 7W,
Thence Northerly to the N.E. corner of township 14N, range 7W,
Thence Westerly to the N.W. corner of township 14N, range 7W,
Thence Northerly to the N.E. corner of township 15N, range 8W,
Thence Westerly to the S.E. corner of township 16N, range 12W,
Thence Northerly to the N.E. corner of township 16N, range 12W,
Thence Westerly to the N.W. corner of township 16N, range 12W,
Thence Northerly to the N.E. corner of township 18N, range 12W,
Thence Westerly to the N.W. corner of township 18N, range 14W,
Thence Southerly to the S.W. corner of township 18N, range 14W,
Thence Easterly to the S.E. corner of township 18N, range 14W,
Thence Southerly to the S.W. corner of township 16N, range 13W,
Thence Westerly to the N.W. corner of township 15N, range 14W,
Thence Southerly to the S.W. corner of township 14N, range 14W,
Thence Easterly to the S.E. corner of township 17N, range 14W,
Thence Southerly to the S.W. corner of township 13N, range 13W,
Thence Easterly to the S.E. corner of township 13N, range 13W,
Thence Southerly to the S.W. corner of township 11N, range 12W,
Thence Easterly to the S.E. corner of township 11N, range 12W,
Thence Southerly along the Eastern Line to range 12W, to the
Pacific Ocean excluding that portion of Northern California
within Santa Clara County included within the following line:
Commencing at the N.W. corner of township 6S, range 3E,
Mt. Diablo Baseline and Meridian:
Thence in a Southerly direction to the S.W. corner of township
7S, range 3E,
Thence in a Easterly direction to the S.E. corner of township
7S, range 4E,
Thence in a Northerly direction to the N.E. corner of township
6S, range 4E,

AREA DESCRIPTIONS (Cont'd)
for
POWER EQUIPMENT OPERATORS
AREAS I and II

Thence in a Westerly direction to the N.W. corner of township
6S, range 3E, to the point of beginning which portion is a
part of Area 2.

AREA I: also includes that portion of Northern California within
the following lines:

Commencing in the Pacific Ocean on a extension of the Southerly
line to township 2N, Humboldt Baseline and Meridian:
Thence Easterly along the Southerly line to Township 2N, to
the S.W. corner of Township 2N, range 1W,
Thence Southerly to the S.W. corner of township 1N, range 1W,
Thence Easterly along the Humboldt Baseline to the S.W. corner
of township 1N, range 2E,
Thence Southerly to the S.W. corner of township 2S, range 2E,
Thence Easterly to the S.E. corner of township 2S, range 2E,
Thence Southerly to the S.W. corner of township 4S, range 3E,
Thence Easterly to the S.E. corner of township 4S, range 3E,
Thence Northerly to the N.E. corner of township 2S, range 3E,
Thence Westerly to the N.W. corner of township 2S, range 3E,
Thence Northerly crossing the Humboldt Baseline to the S.W.
corner of township 1N, range 3E,
Thence Easterly along the Humboldt Baseline to the S.E. corner
of township 1N, range 3E,
Thence Northerly to the N.E. corner of township 9N, range 3E,
Thence Westerly to the N.W. corner of township 9N, range 2E,
Thence Northerly to the N.E. corner of township 10N, range 1E,
Thence Westerly along the Northerly line to township 10N, into
the Pacific Ocean.

AREA I: also includes that portion of Northern California included
within the following lines:

Commencing at the Northerly boundary of the State of California
at the N.W. corner of township 48N, range 7W, Mt. Diablo Baseline
and Meridian:
Thence Southerly to the S.W. corner of township 44N, range 7W,
Thence Easterly to the S.E. corner of township 44N, range 7W,
Thence Southerly to the S.W. corner of township 43N, range 6W,
Thence Easterly to the S.E. corner of township 43N, range 5W,
Thence Northerly to the N.E. corner of township 48N, range 5W,
on the Northerly boundary of the State of California,
Thence Westerly along the Northerly boundary of the State of
California to the point of beginning.

AREA II: All areas not included within AREA I as defined.

Unlisted classifications needed for work not included within the
scope of the classifications listed may be added after award only
as provided in the labor standards contract clauses (29 CFR, 5.5
(a) (1) (ii))

LABOR STANDARDS PROVISIONS
Applicable to Contracts in Excess of \$2,000

1. DAVIS-BACON ACT (40 U.S.C. 276a-276a-7)

(a) All mechanics and laborers employed or working directly upon the site of the work shall be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by the Copeland Regulations, 29 CFR Part 3), the full amounts due at time of payment computed at wage rates not less than the aggregate of the basic hourly rates and the rates of payments, contributions, or costs for any fringe benefits contained in the wage determination decision of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the Contractor or subcontractor and such laborers and mechanics. A copy of such wage determination decision shall be kept posted by the Contractor at the site of the work in a prominent place where it can be easily seen by the workers. The term "mechanics and laborers" shall be deemed to include apprentices and trainees not covered by an approved program as provided by the Apprentices and Trainees clause of this contract.

(b) The Contractor may discharge his obligation under this clause to workers in any classification for which the wage determination decision contains:

(1) Only a basic hourly rate of pay, by making payment at not less than such basic hourly rate, except as otherwise provided in the Copeland Regulations (29 CFR Part 3); or

(2) Both a basic hourly rate of pay and fringe benefits payments, by making payment in cash, by irrevocably making contributions pursuant to a fund, plan, or program for, and/or by assuming an enforceable commitment to bear the cost of, bona fide fringe benefits contemplated by the Davis-Bacon Act, or by any combination thereof. Contributions made, or costs assumed, on other than a weekly basis shall be considered as having been constructively made or assumed during a weekly period to the extent that they apply to such period. Where a fringe benefit is expressed in a wage determination in any manner other than as an hourly rate and the Contractor pays a cash equivalent or provides an alternative fringe benefit, he shall furnish information with his payrolls showing how he determined that the cost incurred to make the cash payment or to provide the alternative fringe benefit is equal to the cost of the wage determination fringe benefit. In any case where the Contractor provides a fringe benefit different from any contained in the wage determination, he shall similarly show how he arrived at the hourly rate shown therefor. In the event of disagreement between or among the interested parties as to an equivalent of any fringe benefit, the Contracting Officer shall submit the question, together with his recommendation, to the Secretary of Labor for final determination.

(c) The assumption of an enforceable commitment to bear the cost of fringe benefits, or the provision of any fringe benefits not expressly listed in section 1(b)(2) of the Davis-Bacon Act or in the wage determination decision forming a part of the contract, may be considered as payment of wages only with the approval of the Secretary of Labor pursuant to a written request by the Contractor. The Secretary of Labor may require the Contractor to set aside assets, in a separate account, to meet his obligations under any unfunded plan or program.

(d) The Contracting Officer shall require that any class of laborers or mechanics, including apprentices and trainees, which is not listed in the wage determination decision and which is to be employed under the contract shall be classified or reclassified conformably to the wage determination decision, and shall report the action taken to the Secretary of Labor. If the interested parties cannot agree on the proper classification or reclassification of a particular class of laborers or mechanics, including apprentices and trainees to be used, the Contracting Officer shall submit the question, together with his recommendation, to the Secretary of Labor for final determination. Apprentices and trainees may be added under this clause only where they are employed pursuant to an apprenticeship or trainee program meeting the requirements of the Apprentices and Trainees clause below.

(e) In the event it is found by the Contracting Officer that any laborer or mechanic, including apprentices and trainees, employed by the Contractor or any subcontractor directly on the site of the

work covered by this contract has been or is being paid at a rate of wages less than the rate of wages required by paragraph (a) of this clause, or by the Apprentices and Trainees clause of this contract, the Contracting Officer may (1) by written notice to the Government Prime Contractor terminate his right to proceed with the work, or such part of the work as to which there has been a failure to pay said required wages, and (2) prosecute the work to completion by contract or otherwise, whereupon such Contractor and his sureties shall be liable to the Government for any excess costs occasioned the Government thereby.

(f) Paragraphs (a) through (e) of the clause shall apply to this contract to the extent that it is (1) a prime contract with the Government subject to the Davis-Bacon Act, or (2) a subcontract also subject to the Davis-Bacon Act under such prime contract.

2. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT—OVERTIME COMPENSATION (40 U.S.C. 327-333).

This contract is subject to the Contract Work Hours and Safety Standards Act and to the applicable rules, regulations, and interpretations of the Secretary of Labor.

(a) The Contractor shall not require or permit any laborer or mechanic, including apprentices, trainees, watchmen, and guards, in any workweek in which he is employed on any work under this contract to work in excess of 8 hours in any calendar day or in excess of 40 hours in such workweek on work subject to the provisions of the Contract Work Hours and Safety Standards Act unless such laborer or mechanic, including apprentices, trainees, watchmen, and guards, receives compensation at a rate not less than 1½ times his basic rate of pay for all such hours worked in excess of 8 hours in any calendar day or in excess of 40 hours in such workweek, whichever is the greater number of overtime hours. The "basic rate of pay," as used in this clause, shall be the amount paid per hour exclusive of the Contractor's contribution or cost for fringe benefits, and any cash payment made in lieu of providing fringe benefits, or the basic hourly rate contained in the wage determination, whichever is greater.

(b) In the event of any violation of the provisions of paragraph (a), the Contractor shall be liable to any affected employee for any amounts due, and to the United States for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including an apprentice, trainee, watchman, or guard, employed in violation of the provisions of paragraph (a) in the sum of \$10 for each calendar day on which such employee was required or permitted to be employed on such work in excess of 8 hours or in excess of the standard workweek of 40 hours without payment of the overtime wages required by paragraph (a).

3. APPRENTICES AND TRAINEES

(a) Apprentices shall be permitted to work at less than the predetermined rate for the work they performed (1) when they are employed and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Bureau of Apprenticeship and Training, or with a State Apprenticeship Agency recognized by the Bureau, or (2) if a person is employed in his first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Bureau of Apprenticeship and Training or State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen in any craft classification shall not be greater than the ratio permitted to the contractor as to his entire work force under the registered program. Any employee listed on a payroll at an apprentice wage rate, who is not a trainee as defined in paragraph (b) of this clause or who is not registered or otherwise employed as stated above, shall be paid the wage rate determined by the Secretary of Labor for the classification of work he actually performed. The Contractor or subcontractor shall furnish to the Contracting Officer written evidence of the registration of his

program and apprentices as well as the appropriate ratios and wage rates (expressed in percentages of the journeymen hourly rates) for the area of construction, prior to using any apprentices on the contract work. The wage rate paid apprentices shall be not less than the appropriate percentage of the journeymen's rate contained in the applicable wage determination.

(b) Trainees shall be permitted to work at less than the predetermined rate for the work performed when they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification, by the U.S. Department of Labor, Employment and Training Administration, Bureau of Apprenticeship and Training. The term "trainee" means a person registered and receiving on-the-job training in a construction occupation under a program which has been approved in advance by the U.S. Department of Labor, Employment and Training Administration, Bureau of Apprenticeship and Training, as meeting its standards for on-the-job training programs and which has been so certified by the Bureau. The ratio of trainees to journeymen on this contract shall not be greater than the ratio permitted under the plan approved by the Bureau of Apprenticeship and Training. Every trainee must be paid at not less than the rate specified in the approved program for his level of progress. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Bureau of Apprenticeship and Training shall be paid not less than the wage rate determined by the Secretary of Labor for the classification of work he actually performed. The Contractor or subcontractor shall furnish the Contracting Officer written evidence of the certification of his program, the registration of the trainees, and the ratios and wage rates prescribed in that program. In the event the Bureau of Apprenticeship and Training withdraws approval of a training program, the Contractor shall no longer utilize trainees at less than the applicable predetermined rate for work performed until an acceptable program is approved.

(c) The utilization of apprentices, trainees, and journeymen under this clause shall be in conformity with the equal employment opportunity requirements of this contract.

(d) If at any time the Bureau of Apprenticeship and Training determines, after opportunity for a hearing, that the standards of a training program have not been complied with, or that such a program fails to provide adequate training for participants, the Contractor shall not utilize trainees at less than the predetermined rate for the classification of work actually performed until an acceptable program is approved. If the Contractor brings an appeal pursuant to 29 CFR 5.17 within 30 days of his receipt of a certified letter withdrawing the Bureau of Apprenticeship and Training's approval, the effect of the withdrawal of approval of the program will be delayed until a decision is rendered on the appeal pursuant to 29 CFR 5.17.

4. PAYROLLS AND BASIC RECORDS

(a) The Contractor shall maintain payrolls and basic records relating thereto during the course of the work and shall preserve them for a period of 3 years thereafter for all laborers and mechanics, including apprentices, trainees, watchmen, and guards working at the site of the work. Such records shall contain the name and address of each such employee, his correct classification, rate of pay (including rates of contributing for or costs assumed to provide fringe benefits), daily and weekly number of hours worked, deductions made, and actual wages paid. Whenever the Contractor has obtained approval from the Secretary of Labor as provided in paragraph (c) of the clause entitled "Davis-Bacon Act", he shall maintain records which show the commitment, its approval, written communication of the plan or program to the laborers or mechanics affected, and the costs anticipated or incurred under the plan or program.

(b) The Contractor shall submit weekly a copy of all payrolls to the Contracting Officer. The Government Prime Contractor shall be responsible for the submission of copies of payrolls of all subcontractors. The copy shall be accompanied by a statement signed by the Contractor indicating that the payrolls are correct and complete, that the wage rates contained therein are not less than those determined by the Secretary of Labor, and that the classifications set forth for each laborer or mechanic, including

apprentices and trainees conform with the work he performed. Submission of the "Weekly Statement of Compliance" required under this contract and the Copeland Regulations of the Secretary of Labor (29 CFR Part 3) shall satisfy the requirement for submission of the above statement. The Contractor shall submit also a copy of any approval by the Secretary of Labor with respect to fringe benefits which is required by paragraph (c) of the clause entitled "Davis-Bacon Act". Contractors employing apprentices or trainees under approved programs shall include a notation of the first weekly certified payrolls submitted to the contracting agencies that their employment is pursuant to an approved program and shall identify the program.

(c) The Contractor shall make the records required under this clause available for inspection by authorized representatives of the Contracting Officer and the Department of Labor, and shall permit such representatives to interview employees during working hours on the job.

NOTE: Watchmen and guards appear on payroll records only for purposes of the Contract Work Hours and Safety Standards Act.

5. COMPLIANCE WITH COPELAND REGULATIONS

The Contractor shall comply with the Copeland Regulations of the Secretary of Labor (29 CFR Part 3) which are incorporated herein by reference.

6. WITHHOLDING OF FUNDS

(a) The Contracting Officer may withhold or cause to be withheld from the Government Prime Contractor so much of the accrued payments or advances as may be considered necessary (1) to pay laborers and mechanics, including apprentices, trainees, watchmen, and guards employed by the Contractor or any subcontractor on the work the full amount of wages required by the contract, and (2) to satisfy any liability of the Contractor and any subcontractor for liquidated damages under paragraph (b) of the clause entitled "Contract Work Hours and Safety Standards Act—Overtime Compensation."

(b) If the Contractor or any subcontractor fails to pay any laborer, mechanic, apprentice, trainee, watchman, or guard employed or working on the site of work, all or part of the wages required by the contract, the Contracting Officer may, after written notice to the Government Prime Contractor, take such action as may be necessary to cause suspension of any further payments or advances until such violations have ceased.

7. SUBCONTRACTS

The Contractor agrees to insert the clauses hereof entitled "Davis-Bacon Act," "Contract Work Hours and Safety Standards Act—Overtime Compensation," "Apprentices and Trainees," "Payrolls and Basic Records," "Compliance with Copeland Regulations," "Withholding of Funds," "Subcontracts," and "Contract Termination—Debarment" in all subcontracts. The term "Contractor" as used in such clauses in any subcontract shall be deemed to refer to the subcontractor except in the phrase "Government Prime Contractor."

8. CONTRACT TERMINATION—DEBARMENT

A breach of the clauses hereof entitled "Davis-Bacon Act," "Contract Work Hours and Safety Standards Act—Overtime Compensation," "Apprentices and Trainees," "Payrolls and Basic Records," "Compliance with Copeland Regulations," "Withholding of Funds," and "Subcontracts" may be grounds for termination of the contract, and for debarment as provided in 29 CFR 5.6.

9. DISPUTES CONCERNING LABOR STANDARDS

Disputes arising out of the labor standards provisions of this contract shall be subject to the Disputes clause except to the extent such disputes involve the meaning of classifications or wage rates contained in the wage determination decisions of the Secretary of Labor or the applicability of the labor provisions of this contract which questions shall be referred to the Secretary of Labor in accordance with the procedures of the Department of Labor.

DISABLED VETERANS AND VETERANS OF THE VIETNAM ERA

(This clause is applicable to all contracts and purchase orders of \$10,000 or more.)

(a) The contractor will not discriminate against any employee or applicant for employment because he or she is a disabled veteran or veteran of the Vietnam Era in regard to any position for which the employee or applicant for employment is qualified. The contractor agrees to take affirmative action to employ, advance in employment and otherwise treat qualified disabled veterans and veterans of the Vietnam era without discrimination based upon their disability or veterans status in all employment practices such as the following: employment upgrading, demotion or transfer, recruitment, advertising, layoff or termination, rates of pay or other forms of compensation, and selection for training, including apprenticeship.

(b) The contractor agrees that all suitable employment openings of the contractor which exist at the time of the execution of this contract and those which occur during the performance of this contract, including those not generated by this contract and including those occurring at an establishment of the contractor other than the one wherein the contract is being performed but excluding those of independently operated corporate affiliates, shall be listed at an appropriate local office of the State employment service system wherein the opening occurs. The contractor further agrees to provide such reports to such local office regarding employment openings and hires as may be required.

State and local government agencies holding Federal contracts of \$10,000 or more shall also list all their suitable openings with the appropriate office of the State employment service, but are not required to provide those reports set forth in paragraphs (d) and (e).

(c) Listing of employment openings with the employment service system pursuant to this clause shall be made at least concurrently with the use of any other recruitment source or effort and shall involve the normal obligations which attach to the placing of a bona fide job order, including the acceptance of referrals of veterans and nonveterans. The listing of employment openings does not require the hiring of any particular job applicant or from any particular group of job applicants, and nothing herein is intended to relieve the contractor from any requirements in Executive Orders or regulations regarding nondiscrimination in employment.

(d) The reports required by paragraph (b) of this clause shall include, but not be limited to, periodic reports which shall be filed at least quarterly with the appropriate local office or, where the contractor has more than one hiring location in a State, with the central office of that State employment service. Such reports shall indicate for each hiring location (1) the number of individuals hired during the reporting period, (2) the number of nondisabled veterans of the Vietnam era hired, (3) the number of disabled veterans of the Vietnam era hired, and (4) the total number of disabled veterans hired. The reports should include covered veterans hired for on-the-job training under 38 USC 1787. The contractor shall submit a report within 30 days after the end of each reporting period wherein any performance is made on this contract identifying data for each hiring location. The contractor shall maintain at each hiring lo-

cation copies of the reports submitted until the expiration of one year after final payment under the contract, during which time these reports and related documentation shall be made available, upon request, for examination by any authorized representatives of the contracting officer or of the Secretary of Labor. Documentation would include personnel records respecting job openings, recruitment and placement.

(e) Whenever the contractor becomes contractually bound to the listing provisions of this clause, it shall advise the employment service system in each State where it has establishments of the name and location of each hiring location in the State. As long as the contractor is contractually bound to these provisions and has so advised the State system, there is no need to advise the State system of subsequent contracts. The contractor may advise the State system when it is no longer bound by this contract clause.

(f) This clause does not apply to the listing of employment openings which occur and are filled outside of the 50 States, the District of Columbia, Puerto Rico, Guam, and the Virgin Islands.

(g) The provisions of paragraphs (b), (c), (d) and (e) of this clause do not apply to openings which the contractor proposes to fill from within his own organization or to fill pursuant to a customary and traditional employer-union hiring arrangement. This exclusion does not apply to a particular opening once an employer decides to consider applicants outside of his own organization or employer-union arrangement for that opening.

(h) As used in this clause: (1) "All suitable employment openings" includes, but is not limited to, openings which occur in the following job categories: production and nonproduction; plant and office; laborers and mechanics; supervisory and nonsupervisory; technical; and executive, administrative, and professional openings as are compensated on a salary basis of less than \$25,000 per year. This term includes full-time employment, temporary employment of more than 3 days' duration, and part-time employment. It does not include openings which the contractor proposes to fill from within his own organization or to fill pursuant to a customary and traditional employer-union hiring arrangement nor openings in an educational institution which are restricted to students of that institution. Under the most compelling circumstances an employment opening may not be suitable for listing, including such situations where the needs of the Government cannot reasonably be otherwise supplied, where listing would be contrary to national security, or where the requirement of listing would otherwise not be for the best interest of the Government.

(2) "Appropriate office of the State employment service system" means the local office of the Federal-State national system of public employment offices with assigned responsibility for serving the area where the employment opening is to be filled, including the District of Columbia, Guam, Puerto Rico, and the Virgin Islands.

(3) "Openings which the contractor proposes to fill from within his own organization" means employment openings for which no consideration will be given to persons

outside the contractor's organization (including any affiliates, subsidiaries, and the parent companies) and includes any openings which the contractor proposes to fill from regularly established "recall" lists.

(4) "Openings which the contractor proposes to fill pursuant to a customary and traditional employer-union hiring arrangement" means employment openings which the contractor proposes to fill from union halls, which is part of the customary and traditional hiring relationship which exists between the contractor and representatives of his employees.

(l) The contractor agrees to comply with the rules, regulations, and relevant orders of the Secretary of Labor issued pursuant to the Act.

(j) In the event of the contractor's non-compliance with the requirements of this clause, actions for noncompliance may be taken in accordance with the rules, regulations relevant orders of the Secretary of Labor issued pursuant to the Act.

(k) The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices in a form to be prescribed by the Director, provided by or through the contracting officer. Such

notice shall state the contractor's obligation under the law to take affirmative action to employ and advance in employment qualified disabled veterans and veterans of the Vietnam era for employment, and the rights of applicants and employees.

(l) The contractor will notify each labor union or representative of workers with which it has a collective bargaining agreement or other contract understanding, that the contractor is bound by the terms of the Vietnam Era Veterans Readjustment Assistance Act, and is committed to take affirmative action to employ and advance in employment qualified disabled veterans and veterans of the Vietnam Era.

(m) The contractor will include the provisions of this clause in every subcontract or purchase order of \$10,000 or more unless exempted by rules, regulations, or orders of the Secretary issued pursuant to the Act, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as the Director of the Office of Federal Contract Compliance Programs may direct to enforce such provisions, including action for non-compliance.

UNITED STATES DEPARTMENT OF AGRICULTURE

EMPLOYMENT OF THE HANDICAPPED

(The following clause is applicable to all contracts or purchase orders of \$2,500 or more, as required by the regulations of the Secretary of Labor.)

(a) The contractor will not discriminate against any employee or applicant for employment because of physical or mental handicap in regard to any position for which the employee or applicant for employment is qualified. The contractor agrees to take affirmative action to employ, advance in employment and otherwise treat qualified handicapped individuals without discrimination based upon their physical or mental handicap in all employment practices such as the following: employment, upgrading, demotion or transfer, recruitment, advertising, layoff or termination, rates of pay or other forms of compensation, and selection for training, including apprenticeship.

(b) The contractor agrees to comply with the rules, regulations, and relevant orders of the Secretary of Labor issued pursuant to the Rehabilitation Act of 1973, as amended.

(c) In the event of the contractor's noncompliance with the requirements of this clause, actions for noncompliance may be taken in accordance with the rules, regulations and relevant orders of the Secretary of Labor issued pursuant to the Act.

(d) The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices in a form to be prescribed by the Director, Office of Federal Contract Compliance Programs, Department of Labor, provided by or through the contracting officer. Such notices shall state the contractor's obligation under the law to take affirmative action to employ and advance in employment qualified handicapped employees and applicants for employment, and the rights of applicants and employees.

(e) The contractor will notify each labor union or representative of workers with which it has a collective bargaining agreement or other contract understanding, that the contractor is bound by the terms of section 503 of the Act and is committed to take affirmative action to employ and advance in employment physically and mentally handicapped individuals.

(f) The contractor will include the provisions of this clause in every subcontract or purchase order of \$2,500 or more unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 503 of the Act, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as the Director, Office of Federal Contract Compliance Programs, may direct to enforce such provisions, including action for noncompliance.

STANDARD FORM 24 JUNE 1964 EDITION GENERAL SERVICES ADMINISTRATION FED. PROC. REG. (41 CFR) 1-16.801				BID BOND <i>(See Instructions on reverse.)</i>		24-103		DATE BOND EXECUTED <i>(Must not be later than bid opening date)</i>	
PRINCIPAL <i>(Legal name and business address)</i>								TYPE OF ORGANIZATION <i>("X" one)</i> ☐ INDIVIDUAL ☐ PARTNERSHIP ☐ JOINT ☐ CORPORATION ☐ VENTURE	
								STATE OF INCORPORATION	
SURETY(IES) <i>(Name and business address)</i>									
PENAL SUM OF BOND					BID IDENTIFICATION				
PERCENT OF BID PRICE	AMOUNT NOT TO EXCEED				BID DATE		INVITATION NO. SCS-1-CA-84		
	MILLION(S)	THOUSAND(S)	HUNDRED(S)	CENTS					
					FOR <i>(Construction, Supplies or Services)</i>		Construction		
KNOW ALL MEN BY THESE PRESENTS, That we, the Principal and Surety(ies) hereto, are firmly bound to the United States of America (hereinafter called the Government) in the above penal sum for the payment of which we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally: <i>Provided</i>, That, where the Sureties are corporations acting as co-sureties, we, the Sureties, bind ourselves in such sum "jointly and severally" as well as "severally" only for the purpose of allowing a joint action or actions against any or all of us, and for all other purposes each Surety binds itself, jointly and severally with the Principal, for the payment of such sum only as is set forth opposite the name of such Surety, but if no limit of liability is indicated, the limit of liability shall be the full amount of the penal sum. THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the Principal has submitted the bid identified above. NOW, THEREFORE, if the Principal, upon acceptance by the Government of his bid identified above, within the period specified therein for acceptance (sixty (60) days if no period is specified), shall execute such further contractual documents, if any, and give such bond(s) as may be required by the terms of the bid as accepted within the time specified (ten (10) days if no period is specified) after receipt of the forms by him, or in the event of failure so to execute such further contractual documents and give such bonds, if the Principal shall pay the Government for any cost of procuring the work which exceeds the amount of his bid, then the above obligation shall be void and of no effect. Each Surety executing this instrument hereby agrees that its obligation shall not be impaired by any extension(s) of the time for acceptance of the bid that the Principal may grant to the Government, notice of which extension(s) to the Surety(ies) being hereby waived; provided that such waiver of notice shall apply only with respect to extensions aggregating not more than sixty (60) calendar days in addition to the period originally allowed for acceptance of the bid. IN WITNESS WHEREOF, the Principal and Surety(ies) have executed this bid bond and have affixed their seals on the date set forth above.									
PRINCIPAL									
Signature(s)		1. _____			2. _____			Corporate Seal	
		<i>(Seal)</i>			<i>(Seal)</i>				
Name(s) & Title(s) <i>(Typed)</i>		1. _____			2. _____				
INDIVIDUAL SURETIES									
Signature(s)		1. _____			2. _____			Corporate Seal	
		<i>(Seal)</i>			<i>(Seal)</i>				
Name(s) <i>(Typed)</i>		1. _____			2. _____				
CORPORATE SURETY(IES)									
SURETY A	Name & Address		1. _____			2. _____		Corporate Seal	
	Signature(s)		1. _____			2. _____			
	Name(s) & Title(s) <i>(Typed)</i>		1. _____			2. _____			
		STATE OF INC.			LIABILITY LIMIT				

CORPORATE SURETY(IES) (Continued)						
SURETY B	Name & Address			STATE OF INC.	LIABILITY LIMIT	Corporate Seal
	Signature(s)	1.	2.			
	Name(s) & Title(s) (Typed)	1.	2.			
SURETY C	Name & Address			STATE OF INC.	LIABILITY LIMIT	Corporate Seal
	Signature(s)	1.	2.			
	Name(s) & Title(s) (Typed)	1.	2.			
SURETY D	Name & Address			STATE OF INC.	LIABILITY LIMIT	Corporate Seal
	Signature(s)	1.	2.			
	Name(s) & Title(s) (Typed)	1.	2.			
SURETY E	Name & Address			STATE OF INC.	LIABILITY LIMIT	Corporate Seal
	Signature(s)	1.	2.			
	Name(s) & Title(s) (Typed)	1.	2.			
SURETY F	Name & Address			STATE OF INC.	LIABILITY LIMIT	Corporate Seal
	Signature(s)	1.	2.			
	Name(s) & Title(s) (Typed)	1.	2.			
SURETY G	Name & Address			STATE OF INC.	LIABILITY LIMIT	Corporate Seal
	Signature(s)	1.	2.			
	Name(s) & Title(s) (Typed)	1.	2.			

INSTRUCTIONS

1. This form is authorized for use whenever a bid guaranty is required in connection with construction work or the furnishing of supplies or services. There shall be no deviation from this form without approval by the Administrator of General Services.

2. The full legal name and business address of the Principal shall be inserted in the space designated "Principal" on the face of this form. The bond shall be signed by an authorized person. Where such person is signing in a representative capacity (e.g., an attorney-in-fact), but is not a member of the firm, partnership, or joint venture, or an officer of the corporation involved, evidence of his authority must be furnished.

3. The penal sum of the bond may be expressed as a percentage of the bid price if desired. In such cases, a maximum dollar limitation may be stipulated (e.g., 20% of the bid price but the amount not to exceed _____ dollars).

4. (a) Corporations executing the bond as sureties must be among those appearing on the Treasury Department's list of approved sureties and must be acting within

the limitations set forth therein. Where more than a single corporate surety is involved, their names and addresses (city and State) shall be inserted in the spaces (Surety A, Surety B, etc.) headed "CORPORATE SURETY(IES)", and in the space designated "SURETY(IES)" on the face of this form only the letter identification of the Sureties shall be inserted.

(b) Where individual sureties execute the bond, they shall be two or more responsible persons. A completed Affidavit of Individual Surety (Standard Form 28), for each individual surety, shall accompany the bond. Such sureties may be required to furnish additional substantiating information concerning their assets and financial capability as the Government may require.

5. Corporations executing the bond shall affix their corporate seals. Individuals shall execute the bond opposite the word "Seal"; and, if executed in Maine or New Hampshire, shall also affix an adhesive seal.

6. The name of each person signing this bid bond should be typed in the space provided.

STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY
CONSTRUCTION CONTRACT SPECIFICATIONS

(EXECUTIVE ORDER 11246)

1. As used in these specifications:
 - a. "Covered area" means the geographical area described in the solicitation from which this contract resulted;
 - b. "Director" means Director, Office of Federal Contract Compliance Programs, United States Department of Labor, or any person to whom the Director delegates authority;
 - c. "Employer identification number" means the Federal Social Security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941.
 - d. "Minority" includes:
 - (1) Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);
 - (2) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish Culture or origin, regardless of race);
 - (3) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and
 - (4) American Indian or Alaskan Native (all persons having origins in any of the original peoples of North American and maintaining identifiable tribal affiliations through membership and participation or community identification).
2. Whenever the Contractor, or any Subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of \$10,000, the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which the contract resulted.
3. If the Contractor is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors must be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each Contractor or Subcontractor participating in an approved Plan is individually required to comply with its obligations under the EEO clause, and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The

overall good faith performance by other Contractors or Subcontractors toward a goal in an approved Plan does not excuse any covered Contractor's or Subcontractor's failure to take good faith efforts to achieve the Plan goals and timetables.

4. The Contractor shall implement the specific affirmative action standards provided in paragraphs 7a through p of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the Contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. The Contractor is expected to make substantially uniform progress toward its goals in each craft during the period specified.
5. Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the Contractor has a collective bargaining agreement, to refer either minorities or women shall excuse the Contractor's obligations under these specifications, Executive Order 11246, or the regulations promulgated pursuant thereto.
6. In order for the nonworking training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor.
7. The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully and shall implement affirmative action steps at least as extensive as the following:
 - a. Ensure and maintain a working environment free of harassment, intimidation and coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor, where possible, will assign two or more women to each construction project. The Contractor shall specifically ensure that all foremen, superintendents and other on-site supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.
 - b. Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organization's responses.
 - c. Maintain a current file of the names, addresses and telephone numbers of each minority and female off-the-street applicant and minority and female referral from a union, a recruitment source or community

organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefor, along with whatever additional actions the Contractor may have taken.

- d. Provide immediate written notification to the Director when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or woman sent by the Contractor, or when the Contractor has other information that the union referral process had impeded the Contractor's efforts to meet its obligations.
- e. Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources complied under 7b above.
- f. Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper; annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.
- g. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination, or other employment decisions, including specific review of these items with on-site supervisory personnel such as Superintendents, General Foremen, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed and disposition of the subject matter.
- h. Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media and providing written notification to and discussing the Contractor's EEO policy with other Contractors and Subcontractors with whom the Contractor does or anticipates doing business.
- i. Direct its recruitment efforts, both oral and written, to minority, female and community organizations to schools with minority and female students and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than 1 month prior to the date for the acceptance of applications for apprenticeship or other training by any

recruitment sources, the Contractor shall send written notification to organizations such as the above, describing the openings, screening procedures, and tests to be used in the selection process.

- j. Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth both on the site and in other areas of a Contractor's workforce.
 - k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.
 - l. Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.
 - m. Ensure that seniority practices, job classification, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.
 - n. Ensure that all facilities and company activities are nonsegregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.
 - o. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.
 - p. Conduct a review, at least annually, of all supervisors' adherence to and performance under the Contractor's EEO policies and affirmative action obligations.
8. Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of the affirmative action obligations (7a through p). The efforts of a contractor association, joint contractor-union, contractor-community, or other similar group of which the Contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under 7a through p of these Specifications provided that the Contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the Contractor's minority and female workforce participation, makes a good faith effort to meet its individual goals and timetables and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply, however, is the Contractor's and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's noncompliance.
9. A single goal for minorities and a separate single goal for women have been established. The Contractor, however, is required to provide equal

employment opportunity and to take affirmative action for all minority groups, both male, female and all women, both minority and nonminority. Consequently, the Contractor may be in violation of the Executive Order if a particular group is employed in a substantially disparate manner (for example, even though the Contractor has achieved its goals for women generally, the Contractor may be in violation of the Executive Order if a specific minority group of women is underutilized).

10. The Contractor shall not use the goals and timetables of affirmative action standards to discriminate against any person because of race, color, religion, sex or national origin.
11. The Contractor shall not enter into any Subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.
12. The Contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended and its implementing regulations, by the Office of Federal Contract Compliance Programs. Any Contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.
13. The Contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 7 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR 60-4.8.
14. The Contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government and to keep records. Records shall at least include for each employee the name, address, telephone numbers, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, Contractors shall not be required to maintain separate records.
15. Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

SOIL CONSERVATION SERVICE
SUPPLEMENT TO OSHA PARTS 1910 AND 1926
CONSTRUCTION STANDARDS AND INTERPRETATIONS

The Contractor is to comply with OSHA Parts 1910 and 1926, Construction Standards and Interpretations in effect on the date of issuance of bids and with this supplement.

Requests for waivers from this supplement are to be made to the contracting officer in writing supported by evidence that every reasonable effort has been made to comply with the contractual requirements. The Contractor is to hold and save the Soil Conservation Service (Contracting Local Organization in locally awarded contracts) free from any claims or causes of action whatsoever resulting from the Contractor or his or her subcontractors proceeding under a waiver or approved adaptation.

Copies of OSHA Parts 1910 and 1926 Construction Standards and Interpretations may be obtained from:

Superintendent of Documents
U.S. Government Printing Office
Washington, D.C. 20402

SOIL CONSERVATION SERVICE
SUPPLEMENT TO OSHA PARTS 1910 AND 1926
CONSTRUCTION STANDARDS AND INTERPRETATIONS

GENERAL CONTRACTOR REQUIREMENTS

1.1 SAFETY PROGRAM. Each contractor is to demonstrate that he or she has facilities for conducting a safety program commensurate with the work under contract. The contractor is to submit in writing a proposed comprehensive safety program to the contracting officer for approval before the start of construction operations. The program is to specifically state what provisions the contractor proposes to take for the health and safety of all employees.

1.2 PRECONSTRUCTION SAFETY MEETING. Representatives of the contractor are to meet with the contracting officer's authorized representative before the start of construction to discuss safety standards and requirements applicable to the work under contract.

1.3 JOINT SAFETY POLICY COMMITTEE. The contractor is to participate in monthly meeting of a Joint Safety Policy Committee, composed of SCS and contractor supervisory personnel. At these meetings the contractor's project manager and the contracting officer's representative will review the effectiveness of the contractor's safety effort and coordinate safety activities.

1.4 SAFETY PERSONNEL. Each contractor is to designate a competent supervisory employee to carry out the safety program.

1.5 SAFETY MEETINGS. A minimum of one "on-the-job" or "toolbox" safety meeting is to be conducted each week by all field supervisors or foremen and attended by all mechanics and laborers at the worksite. The contractor also is to conduct regularly scheduled supervisory safety meetings at least monthly for all levels of job supervision.

1.6 FIRST AID TRAINING. Every contractor foreman must have a Bureau of Mines or American Red Cross first aid certificate. The contractor is to provide first aid instruction to comply with this requirement.

1.7 REPORTS. Each contractor is to maintain an accurate record of, and report to the contracting officer in the manner and on forms prescribed by the contracting officer, all cases of death, occupational disease, or disabling injury arising out of or in the course of employment incident to contract work. All fatal or serious injuries are to be reported immediately to the contracting officer's field representative, and every assistance is to be given in the investigation of the incident, including submission of a comprehensive narrative report to the contracting officer's authorized representative. Other accidental occurrences with serious accident potential such as equipment failures, slides, cave-ins, etc., must also be reported immediately. The contractor is to assist and cooperate fully with the contracting officer's representatives in conducting accident investigations. The contracting officer's authorized representative is to be furnished all information and data pertinent to investigation of an accident.

FIRST AID AND MEDICAL FACILITIES

2.1 CLASS A--FIRST AID FACILITIES (100 or fewer employees).

2.1.1 First Aid Kits. On projects where 100 or fewer workers (total number of employees on all shifts) are employed, 16-unit first aid kits are to be provided at accessible points in the ratio of at least one kit for each 25 employees. The first aid kits are to be moistureproof and dusttight and the contents of the kits are to be replenished as used.

2.1.2 Emergency First Aid. At least one supervisor qualified to administer emergency first aid must be available on each shift and duly designated by the contractor to care for injured employees.

2.1.3 Communication and Transportation. The contractor is to make necessary arrangements for prompt and dependable communications, transportation and medical care for injured employees. At least one stretcher and two blankets must be readily available for transporting injured employees.

2.2 FIRST AID AND MEDICAL REPORTS

2.2.1 Type of Records. The contractor is to maintain a first aid treatment and medical record system on all projects. Such records are to include:

(a) a daily treatment log listing chronologically all patients visiting the facility for occupational injuries and illnesses;

(b) cumulative individual injury records;

(c) monthly statistical records of occupational injuries, classified by type and nature of injury; and

(d) required worker's compensation records.

2.2.2 Availability of Records. Records are to be readily available to the contracting officer.

2.3 GENERAL

2.3.1 Certification of Insurance. Contractors are to provide the contracting officer or his or her authorized representative with certificates of insurance before the start of operations indicating full compliance with State workmen's compensation statutes.

2.3.2 Signs and Directional Markings. Adequate identification and directional markers are to be provided to readily denote the location of all first aid stations.

2.3.3 Emergency Lighting. Emergency lighting is to be provided at all first aid stations.

PHYSICAL QUALIFICATION OF EMPLOYEES

3.1 REQUIREMENT. Persons employed throughout the course of the contract are to be physically qualified to perform their assigned duties. Employees must not knowingly be permitted or required to work while their ability or alertness is so impaired by fatigue, illness, or any other reason that it may expose themselves or others to injury.

3.2 MINORS AND WOMEN WORKERS. The contractor is to comply with all applicable Federal and State laws on employment of minors and women.

3.3 HEAVY EQUIPMENT OPERATORS. It is recommended that operators of trucks and heavy construction equipment be given physical examinations to determine if they are physically qualified to perform their assigned work without endangering themselves or others.

3.4 PHYSICAL EXAMINATIONS REQUIRED

3.4.1 Hoist Operators. Operators of material hoists are to be examined and provided with a physician's certificate stating that they are physically qualified to safely operate hoisting equipment before they are assigned to operate a hoist. At least once a year thereafter they shall obtain a physician's certificate of physical fitness. A copy of each certificate is to be submitted to the contracting officer.

3.4.2 Motor Vehicle Operators. Operators of motor vehicles engaged primarily in the transportation of personnel are to be 18 years of age or older and have a valid State operator's permit or license for the equipment being operated. The operator must have passed a physical examination within the past year.

3.4.3 Marine Divers. Divers must be fully qualified by training, experience and physical condition to perform this type of diving and to perform the

work. A current physician's certification of physical fitness to perform diving is required for all diving personnel.

PERSONAL PROTECTIVE EQUIPMENT

4.1 HARD HATS

4.1.1 Hard Hat Areas. "Hard Hat Areas" include all locations where construction work of any nature is in progress and the entire jobsite with the exception of shop interiors, offices and identified visitor parking areas. All employees (including equipment operators and field mechanics) and others entering the area are required, without exception, to wear hard hats. The contractor is to provide hard hats for visitors entering "Hard Hat Areas."

4.1.2 Posting. Signs at least 3 by 4 feet in size, with the following wording are to be erected at the access to construction areas:

"CONSTRUCTION AREA--HARD HATS REQUIRED
BEYOND THIS POINT"

The signs are to be furnished and erected by the contractor at locations designated by the contracting officer's authorized representative.

4.2 SAFETY GOGGLES (DRILLERS)

4.2.1 Drillers and Helpers. Drillers and helpers operating pneumatic rock drills must wear protective safety goggles.

4.3 SAFETY BELTS AND LINES

4.3.1 Requirement. Employees working from unguarded heights, on steep slopes, or otherwise subjected to possible falls from heights not protected by fixed scaffolding, guardrails, or safety nets must be secured by safety belts and lifelines.

4.3.2 Lifelines. Lifelines are to be secured to at least two substantial anchorages or structural members.

4.3.3 Inspection and Maintenance. Safety belts, lifelines, and accessories are to be inspected daily and maintained in safe condition.

MACHINERY AND MECHANIZED EQUIPMENT

5.1 GENERAL

5.1.1 Safe Condition. Before any machinery or mechanized equipment is initially used on the job, it must be inspected and tested by qualified contractor personnel and determined to be in safe operating condition and appropriate for the intended use. Operators are to be instructed to check their equipment daily before use and report any deficiencies to management. Safety equipment installed on machinery is to be used by equipment operators.

5.1.2 Electric-driven Equipment. Electric-driven equipment is to be installed with provision for tagging and/or locking out the controls while under repair. An approved lockout and/or tagout procedure is to be established, prescribing specific responsibilities and safety procedures to be followed by the person or persons performing the repair work. Mixer barrels are to be securely locked out before permitting employees to enter them for cleaning or repair.

5.1.3 Conductors. Conductors rated 440 volts and greater are not to be laid on the ground unless they are heavy-duty armored type or shielded type. Such cables used to supply power to moving equipment must be moved only with the aid of nonconductive safety tongs, and if energized at 5,000 volts, by worker's wearing tested and approved-type electricians's hot sticks or gloves.

5.1.4 Posting for High-Voltage Lines. A notice of the 10-foot limitation required by 1926.550, Subpart N, is to be posted in the operators cab of cranes, shovels, backhoes and related equipment.

5.2 HAUL ROADS FOR EQUIPMENT

5.2.1 Road Maintenance. The contractor must maintain haul roads and access roads in a safe condition so as to eliminate or control dust and ice hazards. Wherever dust conditions exist, adequate dust-laying equipment must be available at the jobsite and utilized to prevent dust from obscuring vision.

5.2.2 Single-lane Haul Roads. Single-lane haul roads with two-way traffic is to be provided with adequate turnouts. Where adequate turnouts are not practical, a control system is to be provided to prevent vehicle accidents.

5.2.3 Two-way Haul Roads. On two-way traffic haul roads, arrangements are to be such that vehicles travels on the right side wherever possible. Signs and traffic control devices are to be employed to indicate clearly any variation from a right-hand traffic pattern. The width of the road must be adequate to permit safe passage of opposing traffic considering the type of haulage equipment used.

5.2.4 Design and Construction of Haul Roads. Haul road design criteria and drawing if requested by the contracting officer are to be submitted for the approval of the contracting officer's representative prior to road construction.

5.2.5 Operators. Machinery and mechanized equipment is to be operated only by authorized persons.

5.2.6 Riding on Equipment. Riding on equipment by unauthorized personnel is prohibited. Seating shall be provided for the operator and all passengers.

5.2.7 Getting On or Off Equipment. Getting on or off equipment, such as tractors, cranes, or excavation equipment, while the equipment is in motion is prohibited.

5.2.8 Hours of Operation. Except in emergencies, an equipment operator may not be permitted to operate any mobile or hoisting equipment for more than 12 hours without a continuous 8-hour rest interval.

5.3 POWER CRANES AND HOISTS (TRUCK CRANES, CRAWLER CRANES, TOWER CRANES, GENTRY CRANES, HAMMERHEAD CRANES, DERRICKS, CABLEWAYS, AND HOISTS)

5.3.1 Performance Test. Before initial onsite operation, power cranes, derricks, cableways, and hoists must satisfactorily complete a performance tests to demonstrate the equipment's ability

5.3.2 Performance Test--Power Cranes (Crawler-mounted, truck-mounted and wheel-mounted). The performance test is to be carried out with outriggers set and with a test load weighing 115 percent of the manufacturer's rating for the boom radius selected by the contractor. The test is to consist of raising, lowering and braking the load and rotating the test load through 360° at the specified boom angle or radius. Cranes equipped with jibs or boom-tip extensions are to be tested using both the main boom and the jib, with an appropriate test load in each case.

5.3.3 Performance Test--Derricks, Tower Cranes, Cableways and Hoists. Derricks, gantry cranes, tower cranes, cableways and hoists, including overhead cranes, are to be performance tested with a test load weighing 115 percent of the manufacturer's rating. In testing cableways, the test load is to be traveled to the upstream and downstream limits of travel and thoroughly performance tested in at least three travel positions, including both limits of travel.

5.3.4 Boom Angle Indicator. OSHA Part 1926.550(a) is supplemented to require that power cranes be provided with a boom angle indicator in good working order.

5.3.5 Crane Test Certification. The performance test required by 5.3.2 or 5.3.3 is fulfilled if the contractor provides the contracting officer a copy of a certificate of inspection made within the past 12 months by a competent person or by a private agency satisfactory to the contracting officer.

5.4 ROLLOVER PROTECTIVE STRUCTURES (ROPS).

5.4.1 Rollover Protective Structures. Overhead Protection Part 1926, Subpart W, Section 1000, 1001 and 1002 are applicable regardless of the year in which the equipment was manufactured and regardless of the struck capacity of the equipment.

5.4.2 Skid-steer and Compactor Equipment. Skid-steer equipment and self-propelled compactor equipment is to be equipped with ROPS as provided by Part 1926.1001.

CONSTRUCTION SPECIFICATIONS

CONSTRUCTION SPECIFICATION

2. CLEARING AND GRUBBING

1. SCOPE

The work shall consist of the clearing and grubbing of designated areas by removal and disposal of trees, snags, logs, stumps, shrubs and rubbish.

2. MARKING

The limits of the areas to be cleared and grubbed will be marked by means of stakes, flags, tree markings or other suitable methods. Trees to be left standing and uninjured will be designated by special markings placed on the trunks at a height of about six feet above the ground surface.

3. REMOVAL

All trees not marked for preservation and all snags, logs, brush, stumps, shrubs and rubbish shall be removed from within the limits of the marked areas. Unless otherwise specified, all stumps, roots and root clusters having a diameter of one inch or larger shall be grubbed out to a depth of at least two feet below subgrade elevation for concrete structures and one foot below the ground surface at embankment sites and other designated areas.

4. DISPOSAL

Unless otherwise specified, all materials removed from the cleared and grubbed areas shall be burned or buried at locations approved by the Engineer or otherwise disposed of as approved by the Engineer.

5. MEASUREMENT AND PAYMENT

For items of work for which specific lump sum prices are established in the contract, payment for clearing and grubbing will be made at the contract lump sum price. Such payment shall constitute full compensation for all labor, equipment, tools and all other items necessary and incidental to completion of the work.

Compensation for any item of work described in the contract but not listed in the bid schedule will be included in the payment for the item of work to which it is made subsidiary. Such items and the items to which they are made subsidiary are identified in Section 6 of this specification.

6. ITEM OF WORK AND CONSTRUCTION DETAILS

Item of work to be performed in conformance with this specification and the construction details is:

a. Bid Item 2, Clearing and Grubbing

- (1) This item shall consist of clearing and grubbing the entire area within the right-of-way except for those areas and trees designated on the drawings or by the Engineer to be preserved in place. This item shall also include removal and disposal of excess rubbish, such as car bodies and miscellaneous trash.
- (2) Soil removal shall be held to the minimum necessary to accomplish clearing of trees, brush and shrubs and shall generally not exceed 0.3 foot in depth.
- (3) The Contractor shall not damage or scar other trees except for necessary limbing to provide room for construction. If it is necessary to limb a tree, the cut shall be made with a saw and the wound shall be dressed with a tree seal. Any tree that is removed without the Engineer's permission or is irreparably damaged shall be replaced with two 15 gallon size valley oak (*Quercus lobata*) trees as directed by the Engineer. Any tree from which bark has been removed from one-third or more of the circumference shall be considered irreparably damaged to an extent requiring removal. Removal and replacement of damaged trees shall be at the Contractor's expense.
- (4) In Section 4, Disposal, all cleared and grubbed material resulting from this work shall be removed from the construction site and disposed of by the Contractor at sites of his own choosing.

CONSTRUCTION SPECIFICATION

3. STRUCTURE REMOVAL

1. SCOPE

The work shall consist of the removal, salvage and disposal of structures (including fences) from the designated areas.

2. MARKING

The limits of the areas from which structures must be removed will be marked by means of stakes, flags or other suitable methods. Structures to be preserved in place or salvaged will be designated by special markings.

3. REMOVAL

Within the areas so marked all visible structures and attachments and all buried structures located and identified by survey stakes shall be removed to the specified extent and depth.

4. SALVAGE

Structures that are designated to be salvaged shall be carefully removed and neatly placed in the specified storage areas. Salvaged structures that are capable of being disassembled shall be dismantled into individual members or sections. Such structures shall be neatly matchmarked with paint prior to disassembly. All pins, nuts, bolts, washers, plates and other loose parts shall be marked or tagged to indicate their proper locations in the structure and shall be fastened to the appropriate structural member or packed in suitable containers. Materials from fences designated to be salvaged shall be placed outside the work area on the property from which they were removed. Wire shall be rolled into uniform rolls of convenient size. Posts and rails shall be neatly piled.

5. DISPOSAL OF REFUSE MATERIALS

Unless otherwise specified, refuse materials resulting from structure removal shall be burned or buried at locations approved by the Engineer or otherwise disposed of as specified or as approved by the Engineer.

6. MEASUREMENT AND PAYMENT

For items of work for which specific lump sum prices are established in the contract, payment for structure removal will be made at the contract lump sum price. Such payment will constitute full compensation for all labor, equipment, tools, and all other items necessary and incidental to the completion of the work.

Compensation for any item of work described in the contract but not listed in the bid schedule will be included in the payment for the item

of work to which it is made subsidiary. Such items and the items to which they are made subsidiary are identified in Section 7 of this specification.

7. ITEMS OF WORK AND CONSTRUCTION DETAILS

Items of work to be performed in conformance with this specification and the construction details are:

a. Bid Item 3, Structure Removal

- (1) This item shall consist of the removal of all designated structures within the right-of-way that interfere with completion of the construction shown on the drawings and in these specifications.
- (2) In Section 2, Marking, in the event of damage, as a result of the Contractor's operations, to structures designated to be preserved, they shall be immediately restored by the Contractor to their "before" condition at his own expense.
- (3) In Section 5, Disposal of Refuse Material, all refuse materials resulting from this work shall be removed from the construction site and disposed of by the Contractor at sites of his own choosing.

CONSTRUCTION SPECIFICATION

5. POLLUTION CONTROL

1. SCOPE

The work shall consist of installing measures of performing work to control erosion and minimize the production of sediment and other pollutants to the water and air during construction operations in accordance with these specifications.

2. MATERIALS

All materials furnished shall meet the requirements of other material specifications listed in Section 8.

3. EROSION AND SEDIMENT CONTROL MEASURES AND WORKS

The work and measures will include but not be limited to the following, as shown on the drawings or as specified in Section 8.

- a. Staging of Earthwork Activities--The excavation and moving of soil materials will be scheduled so that the smallest possible areas will be unprotected from erosion for the shortest time feasible.
- b. Seeding--Seeding to protect disturbed areas will be used as specified on drawings or in Section 8.
- c. Mulching--Mulching will be used to provide temporary protection to soil surfaces from erosion.
- d. Diversions--Diversions will be used to divert water away from work areas and/or to collect runoff from work areas for treatment and safe disposition.
- e. Stream Crossings--Stream crossings will be used where fording of streams by equipment is necessary.
- f. Sediment Basins--Sediment basins will be used to settle and filter out sediment from eroding areas to protect properties and streams below the construction site.
- g. Straw Bale Filters--Straw bale filters may be used to trap sediment from areas of limited runoff. Bales are temporary and will be removed when permanent measures are installed.
- h. Waterways--Waterways are used for the safe disposal of runoff from fields, diversions and other structures or measures.

4. The Contractor shall provide tanks or barrels or construct a sump sealed with plastic sheets to be used to dispose of chemical pollutants produced as a by-product of the project's work such as drained lubricating or

transmission oils, greases, soaps, asphalt, etc. At the completion of the construction work, the sump shall be covered or filled as directed by the Contracting Officer. Storage tanks or barrels shall be removed from the site.

Sanitary facilities such as pit toilets chemical toilets, or septic tanks shall not be placed adjacent to live streams, wells, or springs. They shall be located at a distance sufficient to prevent contamination of any water source.

5. AIR POLLUTION

Local and state regulations concerning the burning of brush or slash or disposal of other materials shall be adhered to.

Fire prevention measures shall be taken to prevent the start of fires or the spread of fires which result from project work. Fire breaks or guards shall be constructed at locations as shown on the drawings.

All public access or haul roads used during construction of the project shall be sprinkled as required to fully suppress dust.

6. MAINTENANCE

All measures and works will be adequately maintained in a functional condition as long as needed during the construction operation.

7. MEASUREMENT AND PAYMENT

For items of work for which specific unit prices are established in the contract the item will be measured to the nearest unit applicable. Payment for the item will be made at the contract unit price for that item and shall constitute full compensation for all labor, equipment, tools, and all other items necessary and incidental to the completion of the work.

For items of work for which specific lump sum prices are established in the contract, the quantities will not be measured for payment. Payment for pollution control will be made at the contract lump sum price for the item and shall constitute full compensation for all labor, equipment, tools, and all other items necessary and incidental to the completion of the work.

Compensation for any item of work described in the contract but not listed in the bid schedule will be included in the payment for the item of work to which it is made subsidiary. Such items, and the items to which they are made subsidiary, are identified in Section 8 of this specification.

8. ITEM OF WORK AND CONSTRUCTION DETAILS

Item of work to be performed in conformance with this specification and the construction details is:

a. Bid Item 4, Pollution Control

- (1) This item shall consist of the control of water and air pollution as required under this contract.
- (2) In Section 3, Erosion and Sediment Control Measures and Works, the Contractor shall furnish the Engineer a written plan for the control of sediment at least 14 days prior to starting any excavation. The plan shall address items a, d, e, f, g, and h in Section 3. The plan must be approved by the Engineer before starting any excavation. Acceptance of this plan will not relieve the Contractor of responsibility for completing the work as specified.
- (3) In Section 5, Air Pollution, firebreaks or guards will not be required.
- (4) In Section 7, Measurement and Payment, partial payment will be made proportionate to the total value of all bid items completed on the date of the estimate except Pollution Control and Removal of Water.

CONSTRUCTION SPECIFICATION

6. SEEDING AND MULCHING FOR PROTECTIVE COVER

1. SCOPE

The work shall consist of preparing the area for treatment, furnishing and placing seed, mulch, fertilizer, inoculant, soil amendments and asphalt emulsion as specified in the designated areas.

2. MATERIALS

Seed - All seed shall conform to the current rules and regulations of the state where it is being used and from the latest crop available. It shall meet or exceed the standards for purity and germination listed in Section 7.

Seed shall be labeled in accordance with the state laws and the United States Department of Agriculture Rules and Regulations under the Federal Seed Act in effect on the date of invitations for bids. Bag tag figures will be evidence of purity and germination. No seed will be accepted with a date of test of more than 9 months prior to the date of delivery to the site.

Seed that has become wet, moldy, or otherwise damaged in transit or storage will not be accepted. The percent of noxious weed seed allowable shall be as defined in the current state laws relating to agricultural seeds. Each type of seed shall be delivered in separate sealed containers and fully tagged unless exception is granted in writing by the Contracting Officer.

Fertilizer--Unless otherwise specified the fertilizer shall be a commercial grade fertilizer or as specified in Section 7. The fertilizer shall meet the standard for grade and quality specified by state law. Where fertilizer is furnished from bulk storage, the Contractor shall furnish a supplier's certification of analysis and weight. When required by the contract, a representative sample of the fertilizer shall be furnished the Government Representative for chemical analysis.

Inoculants--The inoculant for treating legume seeds shall be a pure culture of nitrogen-fixing bacteria prepared specifically for the species and shall not be used later than the date indicated on the container or as otherwise specified. A mixing medium, as recommended by the manufacturer, shall be used to bond the inoculant to the seed. Two times the amount of the inoculant recommended by the manufacturer shall be used, except when seed is applied by use of hydraulic seeder, four times the amount of inoculant recommended by the manufacturer shall be used. Seed shall be sown within 24 hours of treatment and shall not remain in the hydraulic seeder longer than 4 hours.

Soil amendments--Lime shall consist of Standard Ground Agricultural Limestone, or approved equivalent. Standard Ground Agricultural Limestone is

defined as ground limestone meeting current requirements of the State Department of Agriculture. Agricultural lime or other needed soil amendments will be uniformly applied at the rate specified in Section 7 of this specification.

Asphalt emulsion shall conform to the requirements of ASTM D-977, "Emulsified Asphalt." The emulsified asphalt may be rapid setting, medium setting, or slow setting.

Straw mulch materials shall consist of wheat, oat, or rye straw, hay, grass clippings cut from any native grasses or other plants approved by the Government Representative. The mulch material shall be air dry, reasonably light in color, and shall not be musty, moldy, caked, or otherwise of low quality. The use of mulch that contains noxious weeds will not be permitted. The Contractor shall provide a method satisfactory to the Government Representative for determining weight of mulch furnished.

Other mulch materials--Mulching materials, such as wood cellulose fiber mulch, emulsion type, synthetic fiber mulch, netting, and mesh are other mulching materials that may be required for specialized locations and conditions. These materials, when specified, must be accompanied by the manufacturers' recommendations for methods of application.

3. SEEDING MIXTURES AND DATES OF PLANTING

Seed mixtures per acre rates and date of seeding shall be as specified in Section 7, shown on the vegetating plan, or as otherwise approved by the Government Representative.

4. SEEDBED PREPARATION AND TREATMENT

Disturbed areas will be treated with seed, sod, sprigs, mulch, fertilizer, and soil amendments as specified in this construction specification. Areas to be treated shall be dressed to a reasonably smooth, firm surface. Fertilizer shall be uniformly applied at the rate specified in Section 7 of this specification. The seed mixture or sprigs shall be applied at the rate specified in Section 7 of this specification. Where mulch is needed it shall be uniformly applied at the rate specified in Section 7 of this specification.

On sites where equipment can operate, (generally slopes flatter than 1½ to 1), the seedbed shall be adequately loosened (4 to 6 inches deep) and smoothed. Disking or cultipacking or both may be necessary as determined by the Engineer.

On sites where equipment cannot operate, the seedbed shall be prepared by hand by scarifying to provide a roughened surface so that broadcast seed will stay in place.

If seeding is to be done immediately following construction, seedbed preparation may not be required except on compacted, polished, or freshly cut areas.

Rocks larger than 6 inches in diameter, trash, weeds, and other debris that will interfere with seeding or maintenance shall be removed.

Seedbed preparation shall be suspended when soil moisture conditions are not suitable for the preparation of a satisfactory seedbed as determined by the Engineer.

5. SEEDING, FERTILIZING, MULCHING, AND STABILIZING

All seeding operations shall be performed in such a manner that the seed is applied in the specified quantities uniformly on the designated areas. The method of seed applications shall be as specified in Section 7 and may consist of any combination of: drilling, hydroseeding, pneumatic seeding, and broadcasting seeding. Unless otherwise specified, seeding shall be done within 2 days after final grading is complete.

Fertilizer and soil amendments shall be applied as specified in Section 7. When specified the fertilizer and soil amendments shall be thoroughly incorporated into the soil as soon as possible after being applied.

The rate, amount, and kind of mulching or mesh shall be as specified in Section 7. Mulches shall be applied uniformly to the designated areas, and shall be applied to the seeded areas not later than 2 work days after seeding has been performed. Straw mulch materials shall be stabilized by the use of a disk or by the use of asphalt emulsion. An adequately weighted disk harrow shall have the disks set straight and the harrow shall be used to adequately anchor the straw mulch into the soil.

The asphalt emulsion shall be applied uniformly over the mulch material at the specified rate, or by injecting it into the mulch material as it is being applied. The mesh or netting stabilizing materials shall be applied smoothly but loosely on the designated areas, and the edges shall be buried or securely anchored by means of spikes or staples.

The Contractor shall maintain the mesh or netting areas until all work on the entire contract has been completed and accepted. Maintenance shall consist of the repair of areas damaged by erosion, wind, fire, or other causes. Such areas shall be repaired to reestablish the condition and grade of the soil and shall be refertilized, reseeded, and remulched as directed prior to application of the mesh or netting.

6. MEASUREMENT AND PAYMENT

For items of work for which specific unit prices are established in the contract, each area treated as specified will be measured to the nearest 0.1 acre. Payment for treatment will be made at the contract unit price for the designated treatment which shall constitute full compensation for all materials, labor, equipment, tools, and other items necessary and incidental to the completion of the work.

Mesh or netting will be measured to the nearest square yard of surface area covered. Payment will be made at the contract unit price and shall

constitute full compensation for all labor, equipment, materials and other items necessary and incidental to the completion of work, including the mesh or netting and necessary anchors.

For items of work for which specific lump sum prices are established in the contract, the quantity of seeding and mulching for protective cover will not be measured for payment. Payment for this item will be made at the contract lump sum price for the item and shall constitute full compensation for all labor, equipment, tools, and all other items necessary and incidental to the completion of the work.

Compensation for any item of work described in the contract but not listed in the bid schedule will be included in the payment for the item of work to which it is made subsidiary. Such items and the items to which they are made subsidiary are identified in Section 7 of this specification.

7. ITEMS OF WORK AND CONSTRUCTION DETAILS

Items of work to be performed in conformance with this specification and the construction details are:

a. Bid Item 15, T.C.E. Subsoiling

- (1) This item shall consist of loosening the soil, without inverting and with a minimum of mixing of the surface soil, within the Temporary Construction Easements (T.C.E.), as directed by the Engineer.
- (2) Subsoiling shall not begin until all work, except subsoiling, requiring equipment in the temporary construction easements is completed. The Contractor is required to obtain authorization from the Engineer prior to starting the subsoiling operation.
- (3) Soil shall be loosened with a soil saver chisel or approved equivalent to a depth of 12 to 18 inches.
- (4) There shall be no seeding of the subsoiled area.

b. Bid Item 16, Vegetative Cover

- (1) This item shall consist of seedbed preparation, fertilizing, seeding, and mulching all exposed earth structures within the right-of-way except the levee roads, maintenance roads and access ramps.
- (2) In Section 2, Materials:

- (a) Seed--All seed shall be delivered to the site, tagged and labeled in accordance with the California Agricultural Code, and shall be acceptable to the County Agricultural Commissioner.

Seed shall be of a quality which has a minimum pure live seed content of 80 percent (% purity X % germination) and weed seed shall not exceed 0.5 percent of aggregate of pure live seed and other material.

- (b) Fertilizer--A commercial fertilizer shall be Ammonium Phosphate Sulfate and contain a minimum of 16 percent nitrogen, 20 percent available phosphoric acid and 0 percent water soluble potash, uniform in composition, dry and free flowing, pelleted or granular.

All bagged fertilizer shall be delivered in unbroken or unopened containers, labeled in accordance with applicable state regulations and bearing the warranty of the producer for the grade furnished.

- (c) Soil amendments--No lime nor other soil amendments are specified.

- (d) Mulch--Straw mulch shall be new straw derived from rice, wheat, oats, or barley. The Contractor shall furnish evidence that clearance has been obtained from the County Agricultural Commissioner, as required by law, before straw obtained from outside the county is delivered to the site of the work.

(3) In Section 3, Seeding Mixtures and Dates of Planting:

- (a) Seeding mixture--The following seed and seeding rate shall be used:

<u>Kind of Seed and Amount</u>	<u>Pounds/Acre</u>
Blando Brome (Bromis mollis)	18

The seeding rate shall be the weight of seed exclusive of any coating material.

Date of Planting--Planting shall be performed after final grading is completed. All seeding, fertilizing, and mulching operations shall not begin until approval is given by the Engineer.

- (4) In Section 4, Seedbed Preparation and Treatment, the area to be seeded shall be roughened by scarifying, disking, harrowing, or otherwise worked to a depth of 2 to 4 inches then dressed to a reasonably smooth, firm surface.

No implement shall be used that will create an excessive amount of downward movement of soil or clods on sloping areas. Seedbed may be prepared at time of completion of earthmoving work.

(5) In Section 5, Seeding, Fertilizing, Mulching, and Stabilizing:

- (a) Fertilizing--Fertilizer shall be distributed uniformly over the seedbed at the rate of 500 pounds per acre.

Fertilizer shall be applied in any way that will result in uniform distribution. The fertilizer shall be incorporated into the soil. Incorporation may be as part of the seedbed preparation, or as part of the seeding operation. If fertilizing is a part of the seedbed preparation, it shall not be accomplished more than fifteen (15) days prior to seeding.

- (b) Seeding--Seed shall be drilled, broadcast by hand, mechanical hand seeder, power operated seeder, or other approved equipment. Seed shall be incorporated into the soil, but not more than one-half inch deep.

- (c) Mulching--A straw mulch shall be distributed uniformly over the sloping areas at a rate of two tons per acre. The mulch shall be applied by hand, blower, or other suitable

equipment. If straw is applied with a blower, it shall not be chopped in lengths less than (6) inches.

Application shall be made within 48 hours following seeding.

The mulch shall be anchored in place. Anchoring process as approved by the Engineer may include using hand tools, mulching rollers, disks, or similar types of suitable equipment.

CONSTRUCTION SPECIFICATION

8. MOBILIZATION

1. SCOPE

The work shall consist of the mobilization of the Contractor's forces and equipment necessary for performing the work required under the contract.

It shall include the purchase of contract bonds; initial transportation of personnel, equipment, and operating supplies to the site; establishment of offices, buildings, and other necessary facilities at the site; and other preparatory work at the site.

It shall not include mobilization for any specific item of work for which payment for mobilization is provided elsewhere in the contract.

The specification covers mobilization for work required by the contract at the time of award. If additional mobilization costs are incurred during performance of the contract as a result of change or added items of work for which the Contractor is entitled to an adjustment in contract price, compensation for such costs will be included in the price adjustment for the items of work changed or added.

2. PAYMENT

Payment will be made as the work proceeds, after presentation of invoices by the Contractor showing his own mobilization costs and evidence of the charges of suppliers, subcontractors, and others for mobilization work performed by them. If the total of such payments is less than the contract lump sum for mobilization, the unpaid balance will be included in the final contract payment. Total payment will be the lump sum contract price for mobilization, regardless of actual cost to the Contractor.

Payment will not be made under this item for the purchase costs of materials having a residual value, the purchase costs of materials to be incorporated in the project, or the purchase costs of operating supplies.

Payment of the lump sum contract price for mobilization will constitute full compensation for all labor, materials, equipment, and all other items necessary and incidental to completion of the work.

Compensation for any item of work described in the contract but not listed in the bid schedule will be included in the payment for the item of work to which it is made subsidiary. Such items and the items to which they are made subsidiary are identified in Section 3 of this specification.

3. ITEM OF WORK AND CONSTRUCTION DETAILS

Item of work to be performed in conformance with this specification and the construction details is:

a. Bid Item 1, Mobilization

- (1) This item shall consist of the mobilization of the Contractor's forces and equipment, as described in Section 1, for the performance of all work required under the contract.
- (2) Additional requirements:
 - (a) Field Office. The Contractor shall provide and maintain for the exclusive use of the Engineer, at a location convenient to the construction operations, one field office of the portable trailer type with a sink and toilet partitioned off from one end. Office shall be provided with an outside-door lock. The floor space occupied by the office shall be not less than 250 square feet. The office shall be located close to the Contractor's field office.
 - (b) Equipment. The Contractor shall furnish and install not less than two desks, two chairs, one file cabinet, one plan rack, and one plan table. The Contractor shall furnish and install the necessary electrical wiring, furnish light, heat, water; private telephone installation and removal, and weekly janitorial service in connection with said office shall be provided for the duration of the work. The Contractor shall remove said office and appurtenant facilities upon completion of the work.
 - (c) Private Phone Service. Private phone service for the Engineer shall be billed to the Service directly and will not be a part of mobilization.

CONSTRUCTION SPECIFICATION

11. REMOVAL OF WATER

1. SCOPE

The work shall consist of the removal of surface water and ground water as needed to perform the required construction in accordance with the specifications. It shall include (1) building and maintaining all necessary temporary impounding works, channels, and diversions; (2) furnishing, installing and operating all necessary pumps, piping and other facilities and equipment, and (3) removing all such temporary works and equipment after they have served their purposes.

2. DIVERTING SURFACE WATER

The Contractor shall build, maintain, and operate all cofferdams, channels, flumes, sumps, and other temporary diversion and protective works needed to divert streamflow and other surface water through or around the construction site and away from the construction work while construction is in progress. Unless otherwise specified, a diversion must discharge into the same natural drainageway in which its headworks are located.

Unless otherwise specified, the Contractor shall furnish to the Engineer, in writing, his plan for diverting surface water before beginning the construction work for which the diversion is required. Acceptance of this plan will not relieve the Contractor of responsibility for completing the work as specified.

3. DEWATERING THE CONSTRUCTION SITE

Foundations, cutoff trenches and other parts of the construction site shall be dewatered and kept free of standing water or excessively muddy conditions as needed for proper execution of the construction work. The Contractor shall furnish, install, operate and maintain all drains, sumps, pumps, casings, wellpoints, and other equipment needed to perform the dewatering as specified. Dewatering methods that cause a loss of fines from foundation areas will not be permitted.

Unless otherwise specified, the Contractor shall furnish to the Engineer, in writing, his plan before beginning the construction work for which the dewatering is required. Acceptance of this plan will not relieve the Contractor of responsibility for completing the work as specified.

4. DEWATERING BORROW AREAS

Unless otherwise specified in Section 7, the Contractor shall maintain the borrow areas in a drainable condition or otherwise provide for timely and effective removal of surface waters that accumulate, for any reason, within the borrow areas.

5. REMOVAL OF TEMPORARY WORKS

After the temporary works have served their purposes, the Contractor shall remove them or level and grade them to the extent required to present a sightly appearance and to prevent any obstruction of the flow of water or any other interference with the operation of or access to the permanent works.

Except as specified, pipes and casings shall be removed from temporary wells and the wells shall be filled to ground level with gravel or other material approved by the Engineer.

6. MEASUREMENT AND PAYMENT

For items of work for which specific lump sum prices are established in the contract, payment for diverting surface water, dewatering construction sites, and dewatering borrow areas will be made at the contract lump sum prices. Such payment will constitute full compensation for all labor, equipment, tools, and all other items necessary and incidental to the completion of the work.

Compensation for any item of work described in the contract but not listed in the bid schedule will be included in the payment for the item of work to which it is made subsidiary. Such items and the items to which they are made subsidiary are identified in Section 7 of this specification.

7. ITEM OF WORK AND CONSTRUCTION DETAILS

Item of work to be performed in conformance with this specification and construction details is:

a. Bid Item 5, Removal of Water

- (1) This item shall consist of the removal and diversion of surface water and ground water as required to construct the works of improvement in the dry in accordance with these specifications.
- (2) Work shall not be allowed when dewatering is insufficient for the work to be accomplished in the dry. The work site shall remain drained and useable for construction purposes for the duration of the construction season. Water shall not be allowed to stand or pond within the work site.
- (3) It is anticipated that a water table and/or seepage from existing banks will be encountered during construction operations.
- (4) The Contractor shall remove all water which may accumulate in the excavation during the progress of work so that all work can be done in the dry. Trenches and foundation areas shall be kept free from water while the improvements are installed and until backfilling has progressed to a height above the water source. The Contractor shall have sufficient pumping equipment available for immediate use. Water shall be disposed of in such a manner as to cause no injury to public or private property.
- (5) In Section 2, Diverting Surface Water, and in Section 3, Dewatering the Construction Site, the Contractor shall submit his written plan five days in advance of starting the removal and diversion of surface water and ground water.
- (6) Section 6, Measurement and Payment, shall apply. Partial payment of 40 percent of the lump sum price will be made with the first progress payment after installation of the dewatering system. The remaining 60 percent of the lump sum price will be made proportionate to the total value of all bid items, except Removal of Water and Pollution Control, completed on the date of the partial payment estimate.

CONSTRUCTION SPECIFICATION

21. EXCAVATION

1. SCOPE

The work shall consist of the excavation required by the drawings and specifications and disposal of the excavated materials.

2. CLASSIFICATION

Excavation will be classified as common excavation or rock excavation in accordance with the following definitions or will be designated as unclassified.

Common excavation shall be defined as the excavation of all materials that can be excavated, transported, and unloaded by the use of heavy ripping equipment and wheel tractor-scrapers with pusher tractors or that can be excavated and dumped into place or loaded onto hauling equipment by means of excavators having a rated capacity of one cubic yard and equipped with attachments (such as shovel, bucket, backhoe, dragline or clamshell) appropriate to the character of the materials and the site conditions.

Rock excavation shall be defined as the excavation of all hard, compacted or cemented materials the accomplishment of which requires blasting or the use of excavators larger than defined for common excavation. The excavation and removal of isolated boulders or rock fragments larger than one cubic yard in volume encountered in materials otherwise conforming to the definition of common excavation shall be classified as rock excavation.

Excavation will be classified according to the above definitions by the Engineer, based on his judgment of the character of the materials and the site conditions.

The presence of isolated boulders or rock fragments larger than one cubic yard in size will not in itself be sufficient cause to change the classification of the surrounding material.

For the purpose of this classification, the following definitions shall apply:

Heavy ripping equipment shall be defined as a rear-mounted heavy duty, single-tooth, ripping attachment mounted on a tractor having a power rating of 200 to 300 net horsepower (at the flywheel).

Wheel tractor-scraper shall be defined as a self-loading (not elevating) and unloading scraper having a struck bowl capacity of 12 to 20 yards.

Pusher tractor shall be defined as a track type tractor having a power rating of 200 to 300 net horsepower (at the flywheel) equipped with appropriate attachments.

3. UNCLASSIFIED EXCAVATION

Items designated as "Unclassified Excavation" shall include all materials encountered regardless of their nature or the manner in which they are removed. When excavation is unclassified, none of the definitions or classifications stated in Section 2 of this specification shall apply.

4. BLASTING

The transportation, handling, storage, and use of dynamite and other explosives shall be directed and supervised by a person of proven experience and ability in blasting operations.

Blasting shall be done in such a way as to prevent damage to the work or unnecessary fracturing of the foundation and shall conform to any special requirements in Section 12 of this specification.

5. USE OF EXCAVATED MATERIALS

To the extent they are needed, all suitable materials from the specified excavations shall be used in the construction of required permanent earth fill or rock fill. The suitability of materials for specific purposes will be determined by the Engineer. The Contractor shall not waste or otherwise dispose of suitable excavated materials.

6. DISPOSAL OF WASTE MATERIALS

Method 1, All surplus or unsuitable excavated materials will be designated as waste and shall be disposed of at the locations shown on the drawings.

Method 2, All surplus or unsuitable excavated materials will be designated as waste and shall be disposed of by the Contractor at sites of his own choosing away from the site of the work.

7. BRACING AND SHORING

Excavated surfaces too steep to be safe and stable if unsupported shall be supported as necessary to safeguard the work and workmen, to prevent sliding or settling of the adjacent ground, and to avoid damaging existing improvements. The width of the excavation shall be increased if necessary to provide space for sheeting, bracing, shoring, and other supporting installations. The Contractor shall furnish, place and subsequently remove such supporting installations.

8. STRUCTURE AND TRENCH EXCAVATION

Structure or trench excavation shall be completed to the specified elevations and to sufficient length and width to include allowance for forms, bracing and supports, as necessary, before any concrete or earth fill is placed or any piles are driven within the limits of the excavation.

9. BORROW EXCAVATION

When the quantities of suitable materials obtained from specified excavations are insufficient to construct the specified fills, additional materials shall be obtained from the designated borrow areas. The extent and depth of borrow pits within the limits of the designated borrow areas shall be as directed by the Engineer.

Borrow pits shall be excavated and finally dressed in a manner to eliminate steep or unstable side slopes or other hazardous or unsightly conditions.

10. OVEREXCAVATION

Excavation in rock beyond the specified lines and grades shall be corrected by filling the resulting voids with portland cement concrete made of materials and mix proportions approved by the Engineer. Concrete that will be exposed to the atmosphere when construction is completed shall contain not less than 6 sacks of cement per cubic yard of concrete. Concrete that will be permanently covered shall contain not less than $4\frac{1}{2}$ sacks of cement per cubic yard. The concrete shall be placed and cured as specified by the Engineer.

Excavation in earth beyond the specified lines and grades shall be corrected by filling the resulting voids with approved compacted earth fill, except that, if the earth is to become the subgrade for riprap, rock fill, sand or gravel bedding, or drain fill, the voids may be filled with material conforming to the specifications for the riprap, rock fill, bedding or drain fill.

11. MEASUREMENT AND PAYMENT

For items of work for which specific unit prices are established in the contract, the volume of each type and class of excavation within the specified pay limits will be measured and computed to the nearest cubic yard by the method of average cross-sectional end areas. Regardless of quantities excavated, the measurement for payment will be made to the specified pay limits, except that excavation outside the specified lines and grades directed by the Engineer to remove unsuitable material will be included, but only to the extent that the unsuitable condition is not a result of the Contractor's operations.

The pay limits shall be defined as follows:

- a. The upper limit shall be the original ground surface as it existed prior to the start of construction operations except that where excavation is performed within areas designated for previous excavation or fill the upper limit shall be modified ground surface resulting from the specified previous excavation or fill.
- b. The lower and lateral limits shall be the neat lines and grades shown on the drawings.

Payment for each type and class of excavation will be made at the contract unit price for that type and class of excavation. Such payment will constitute full compensation for all labor, materials, equipment, and all other items necessary and incidental to the performance of the work, except that extra payment for backfilling required overexcavation will be made in accordance with the following provision:

- a. Payment for backfilling overexcavation, as specified in Section 10 of this specification, will be made only if the excavation outside specified lines and grades is directed by the Engineer to remove unsuitable material and if the unsuitable condition is not a result of the Contractor's operations.

Compensation for any item or work described in the contract but not listed in the bid schedule will be included in the payment for the item of work to which it is made subsidiary. Such items and the items to which they are made subsidiary are identified in Section 12 of this specification.

12. ITEM OF WORK AND CONSTRUCTION DETAILS

Items of work to be performed in conformance with this specification and the construction details are:

a. Bid Item 6, Excavation, Common

- (1) This item shall consist of all excavation necessary to construct all improvements except Stockpile Material, Bid Item 7. These improvements include but are not limited to earth channel, rock riprap, grouted rock riprap and fish ladders.
- (2) In Section 6, Disposal of Waste Materials, Method 2 shall apply.
- (3) See also Special Provision 33, Waste Material.

b. Bid Item 7, Stockpile Material

- (1) This item shall consist of all excavation, hauling and placement and grading required to stockpile suitable material in the Mandatory Disposal Sites as shown on sheet 2 of the drawings.
- (2) In Section 5, Use of Excavated Material.
 - (a) Materials to be placed in the Mandatory Disposal Sites shall be suitable material as determined by the Engineer in the field. Upon completion of the fill, Mandatory Disposal Sites shall be graded to drain as directed by the Engineer.
 - (b) Mandatory Disposal Site No. 1 is hereby deleted.
 - (c) 355,000 c.y. shall be placed in Mandatory Disposal Site No. 2 as shown on sheet 4 of the drawings. Surplus material may also be placed on this site to a maximum height of 20 feet above the existing ground.
- (3) In Section 6, Disposal of Waste Materials, method 2 shall apply.
- (4) In Section 11, Measurement and Payment, payment for Bid Item 7, Stockpile Material will be for a maximum of 355,000 c.y. All surplus material in excess of the 355,000 c.y. of stockpile material will be designated as waste material and payment will be included in Bid Item 6, Excavation, Common.

CONSTRUCTION SPECIFICATION

23. EARTH FILL

1. SCOPE

The work shall consist of the construction of earth embankments and other earth fills required by the drawings and specifications.

2. MATERIALS

All fill materials shall be obtained from required excavations and designated borrow areas. The selection, blending, routing and disposition of materials in the various fills shall be subject to approval by the Engineer.

Fill materials shall contain no sod, brush, roots or other perishable materials. Rock particles larger than the maximum size specified for each type of fill shall be removed prior to compaction of the fill.

The types of materials used in the various fills shall be as listed and described in the specifications and drawings.

3. FOUNDATION PREPARATION

Foundations for earth fill shall be stripped to remove vegetation and other unsuitable materials or shall be excavated as specified.

Except as otherwise specified, earth foundation surfaces shall be graded to remove surface irregularities and shall be scarified parallel to the axis of the fill or otherwise acceptably scored and loosened to a minimum depth of 2 inches. The moisture content of the loosened material shall be controlled as specified for the earth fill, and the surface materials of the foundation shall be compacted and bonded with the first layer of earth fill as specified for subsequent layers of earth fill.

Earth abutment surfaces shall be free of loose, uncompacted earth in excess of 2 inches in depth normal to the slope and shall be at such a moisture content that the earth fill can be compacted against them to effect a good bond between the fill and the abutments.

Rock foundation and abutment surfaces shall be cleared of all loose materials by hand or other effective means and shall be free of standing water when fill is placed upon them. Occasional rock outcrops in earth foundations for earth fill, except in dams and other structures designed to restrain the movement of water, shall not require special treatment if they do not interfere with compaction of the foundation and initial layers of the fill or the bond between the foundation and the fill.

Foundation and abutment surfaces shall be not steeper than 1 horizontal to 1 vertical unless otherwise specified. Test pits or other cavities shall be filled with compacted earth fill conforming to the specifications for the earth fill to be placed upon the foundation.

4. PLACEMENT

Fill shall not be placed until the required excavation and foundation preparation have been completed and the foundation has been inspected and approved by the Engineer. Fill shall not be placed upon a frozen surface, nor shall snow, ice, or frozen material be incorporated in the fill.

Fill shall be placed in approximately horizontal layers. The thickness of each layer before compaction shall not exceed the maximum thickness specified. Materials placed by dumping in piles or windrows shall be spread uniformly to not more than the specified thickness before being compacted. Hand compacted fill, including fill compacted by manually directed power tampers, shall be placed in layers whose thickness before compaction does not exceed the maximum thickness specified for layers of fill compacted by manually directed power tampers.

Adjacent to structures, fill shall be placed in a manner which will prevent damage to the structures and will allow the structures to assume the loads from the fill gradually and uniformly. The height of the fill adjacent to a structure shall be increased at approximately the same rate on all sides of the structure.

Earth fill in dams, levees and other structures designed to restrain the movement of water shall be placed so as to meet the following additional requirements:

- a. The distribution of materials throughout each zone shall be essentially uniform, and the fill shall be free from lenses, pockets, streaks or layers of material differing substantially in texture or gradation from the surrounding material.
- b. If the surface of any layer becomes too hard and smooth for proper bond with the succeeding layer, it shall be scarified parallel to the axis of the fill to a depth of not less than 2 inches before the next layer is placed.
- c. The top surfaces of embankments shall be maintained approximately level during construction, except that a crown or cross-slope of not less than 2 percent shall be maintained to insure effective drainage, and except as otherwise specified for drain fill zones. If the drawings or specifications require or the Engineer directs that fill be placed at a higher level in one part of an embankment than another, the top surface of each part shall be maintained as specified above.
- d. Dam embankments shall be constructed in continuous layers from abutment to abutment except where openings to facilitate construction or to allow the passage of stream flow during construction are specifically authorized in the contract.
- e. Embankments built at different levels as described under c or d above shall be constructed so that the slope of the bonding surfaces

between embankment in place and embankment to be placed is not steeper than 3 feet horizontal to 1 foot vertical. The bonding surface of the embankment in place shall be stripped of all loose material, and shall be scarified, moistened and recompacted when the new fill is placed against it as needed to insure a good bond with the new fill and to obtain the specified moisture content and density in the junction of the in place and new fill.

5. CONTROL OF MOISTURE CONTENT

During placement and compaction of fill, the moisture content of the materials being placed shall be maintained within the specified range.

The application of water to the fill materials shall be accomplished at the borrow areas insofar as practicable. Water may be applied by sprinkling the materials after placement on the fill, if necessary. Uniform moisture distribution shall be obtained by discing, blading or other approved methods prior to compaction of the layer.

Material that is too wet when deposited on the fill shall either be removed or be dried to the specified moisture content prior to compaction.

If the top surface of the preceding layer of compacted fill or a foundation or abutment surface in the zone of contact with the fill becomes too dry to permit suitable bond, it shall be scarified and moistened by sprinkling to an acceptable moisture content prior to placement of the next layer of fill.

6. COMPACTION

Earth fill shall be compacted according to the following requirements for the class of compaction specified:

Class A compaction. Each layer of fill shall be compacted as necessary to make the density of the fill matrix not less than the minimum density specified. The fill matrix is defined as the portion of the fill material finer than the maximum particle size used in the compaction test method specified.

Class B compaction. Each layer of fill shall be compacted to a mass density not less than the minimum density specified.

Class C compaction. Each layer of fill shall be compacted by the specified number of passes of the type and weight of roller or other equipment specified, or by an approved equivalent method. Each pass shall consist of at least one passage of the roller wheel or drum over the entire surface of the layer.

Fill adjacent to structures shall be compacted to a density equivalent to that of the surrounding fill by means of hand tamping if permitted by the Contracting Officer, or manually directed power tampers or plate vibrators. Heavy equipment shall not be operated within 2 feet of any

structure. Vibrating rollers shall not be operated within 5 feet of any structure. Compaction by means of drop weights operating from a crane or hoist will not be permitted.

The passage of heavy equipment will not be allowed: (1) over cast-in-place conduits prior to 14 days after placement of the concrete; (2) over cradled precast conduits prior to 7 days after placement of the concrete cradle; or (3) over any type of conduit until the backfill has been placed above the top surface of the structure to a height equal to one-half the clear span width of the structure or pipe or 2 feet, whichever is greater.

Compacting of fill adjacent to structures shall not be started until the concrete has attained the strength specified in Section 10 for this purpose. The strength will be determined by compression testing of test cylinders cast by the Engineer for this purpose and cured at the work site in the manner specified in ASTM Method C 31 for determining when a structure may be put into service.

When the required strength of the concrete is not specified as described above, compaction of fill adjacent to structures shall not be started until the following time intervals have elapsed after placement of the concrete.

Structure	Time Interval
Retaining walls and counterforts	14 days
Walls backfilled on both sides simultaneously	7 days
Conduits and spillway risers, cast-in-place (with inside forms in place)	7 days
Conduits and spillway risers, cast-in-place (inside forms removed)	14 days
Conduits, precast, cradled	2 days
Conduits, precast, bedded	1 day
Antiseep collars and cantilever outlet bents	3 days

7. REMOVAL AND PLACEMENT OF DEFECTIVE FILL

Fill placed at densities lower than the specified minimum density or at moisture contents outside the specified acceptable range of moisture content or otherwise not conforming to the requirements of the specifications shall be reworked to meet the requirements or removed and replaced

by acceptable fill. The replacement fill and the foundation, abutment and fill surfaces upon which it is placed shall conform to all requirements of this specification for foundation preparation, approval, placement, moisture control and compaction.

8. TESTING

During the course of the work, the Engineer will perform such tests as are required to identify materials, to determine compaction characteristics, to determine moisture content, and to determine density of fill in place. These tests performed by the Engineer will be used to verify that the fills conform to the requirements of the specifications. Such tests are not intended to provide the Contractor with the information required by him for the proper execution of the work and their performance shall not relieve the Contractor of the necessity to perform tests for that purpose.

Densities of fill requiring Class A compaction will be determined by the Engineer in accordance with ASTM Method D 1556 (or by equivalent methods), except that the volume and moist weight of included rock particles larger than those used in the compaction test method specified for the type of fill will be determined and deducted from the volume and moist weight of the total sample prior to computation of density. The density so computed will be used to determine the percent compaction of the fill matrix.

9. MEASUREMENT AND PAYMENT

For items of work for which specific unit prices are established in the contract, the volume of each type and compaction class of earth fill within the specified zone boundaries and pay limits will be measured and computed to the nearest cubic yard by the method of average cross-sectional end areas. Unless otherwise specified, no deduction in volume will be made for embedded conduits and appurtenances.

The pay limits shall be as defined below, with the further provision that earth fill required to fill voids resulting from overexcavation of the foundation, outside the specified lines and grades, will be included in the measurement for payment only where such overexcavation is directed by the Engineer to remove unsuitable material and where the unsuitable condition is not a result of the Contractor's operations.

The pay limits shall be the specified pay limits for excavation and the specified neat lines of the fill surface.

Payment for each type and compaction class of earth fill will be made at the contract unit price for that type and compaction class of fill. Such payment will constitute full compensation for all labor, materials, equipment and all other items necessary and incidental to the performance of the work.

Compensation for any item of work described in the contract but not listed in the bid schedule will be included in the payment for the item

of work to which it is made subsidiary. Such items and the items to which they are made subsidiary are identified in Section 10 of this specification.

10. ITEMS OF WORK AND CONSTRUCTION DETAILS

Items of work to be performed in conformance with this specification and the construction details are:

a. Bid Item 8, Earth Fill

- (1) This item shall consist of all compacted earth fill necessary to construct the channel, the levees, and all other earth fill to the lines and grades as shown on the drawings.
- (2) In Section 2, Materials, the maximum size of rock fragment incorporated into the fill shall not exceed 6 inches and within two feet of a pipe or structure, rocks shall not exceed 3 inches in diameter.
- (3) In Section 4, Placement, the thickness of each layer of fill before compaction, unless otherwise specifically permitted by the Engineer, shall not be greater than 9 inches.
- (4) In Section 5, Control of Moisture Content, the moisture content shall be ± 2 percent of optimum.
- (5) In Section 6, Compaction, Class B compaction shall be used. Earth fill shall be compacted to 90 percent of the maximum density obtained in compaction tests of the fill materials performed by Method "A" of ASTM D 698.
- (6) In Section 8, Testings, field density of soil in place will be determined by the sand-cone method, however, the Engineer may elect to use other equivalent test methods for construction control purposes. In the event of any dispute, acceptability of the work will be based on test results determined by the sand-cone method.

CONSTRUCTION SPECIFICATION

24. DRAIN FILL

1. SCOPE

The work shall consist of furnishing, placing and compacting drain fill required in the construction of structure drains and filters.

2. MATERIALS

Drain fill materials shall conform to the requirements of Material Specification 521. At least 30 days prior to delivery of the materials to the site, the Contractor shall inform the Contracting Officer in writing of the source from which he intends to obtain them. The Contractor shall provide the Engineer free access to the source for the purpose of obtaining samples for testing.

3. BASE PREPARATION

Foundation surfaces and trenches shall be clean and free of organic matter, loose soil, foreign substances, and standing water when the drain fill is placed. Earth surfaces upon or against which drain fill will be placed shall not be scarified.

4. PLACEMENT

Drain fill shall not be placed until the subgrade has been inspected and approved by the Engineer. Drain fill shall not be placed over or around pipe or drain tile until the installation of the pipe or tile has been inspected and approved.

Drain fill shall be placed uniformly in layers not more than 12 inches deep before compaction. When compaction is accomplished by manually controlled equipment, the layers shall be not more than 8 inches deep. The material shall be placed in a manner to avoid segregation of particle sizes and to insure the continuity and integrity of all zones. No foreign materials shall be allowed to become intermixed with or otherwise contaminate the drain fill.

Traffic shall not be allowed to cross over drains at random. Equipment crossovers shall be maintained, and the number and location of such crossovers shall be established and approved prior to the beginning of drain fill placement. Each crossover shall be cleaned of all contaminating materials and shall be inspected and approved by the Engineer before additional drain fill is placed.

Any damage to the foundation surface or to the sides or bottoms of trenches occurring during placement of drain fill shall be repaired before drain fill placement is continued.

The upper surface of drain fill constructed concurrently with adjacent zones of earth fill shall be maintained at an elevation at least one foot above the upper surface of the adjacent fill.

Drain fill over or around pipe or drain tile shall be placed in a manner to avoid any displacement of the pipe or tile in line or grade.

5. CONTROL OF MOISTURE

The moisture content of drain fill materials shall be controlled as specified in Section 9. When the addition of water is required, it shall be applied in such a way as to avoid excessive wetting of adjacent earth fill. Except as specified in Section 9, control of moisture content will not be required.

6. COMPACTION

Drain fill shall be compacted according to the following requirements for the class of compaction specified:

Class A compaction. Each layer of drain fill shall be compacted to a relative density of not less than 70 percent as determined by ASTM Method D 2049-64T.

Class I compaction. Each layer of drain fill shall be compacted by at least 2 passes, over the entire surface, of a steel-drum vibrating roller weighing not less than 5 tons and exerting a vertical vibrating force of not less than 20,000 pounds at least 1200 times per minute, or by an approved equivalent method.

Class II compaction. Each layer of drain fill shall be compacted by one of the following methods or by an approved equivalent method:

- a. At least 2 passes, over the entire surface, of a pneumatic-tired roller exerting a pressure of not less than 75 pounds per square inch.
- b. At least 4 passes, over the entire surface, of the track of a crawler-type tractor weighing not less than 20 tons.
- c. Controlled movement of the hauling equipment so that the entire surface is traversed by not less than one tread track of the loaded equipment.

Class III compaction. No compaction will be required beyond that resulting from the placing and spreading operations.

When compaction other than Class III compaction is specified materials placed in trenches or other locations inaccessible to heavy equipment shall be compacted by means of manually controlled pneumatic or vibrating tampers or by approved equivalent methods.

7. TESTING

The Engineer will perform such tests as are required to verify that the drain fill materials and the drain fill in place meet the requirements of the specifications. These tests are not intended to provide the Contractor with the information he needs to assure that the materials and workmanship meet the requirements of the specifications, and their performance will not relieve the Contractor of the responsibility of performing his own tests for that purpose.

8. MEASUREMENT AND PAYMENT

For items of work for which specific unit prices are established in the contract, the volume of drain fill within the neat lines shown on the drawings or limits established by the Engineer will be measured and computed to the nearest cubic yard. Where the Engineer directs placement of drain fill outside the neat lines to replace unsuitable foundation material, the volume of such drain fill will be included, but only to the extent that the unsuitable condition is not a result of the Contractor's operations.

Payment for drain fill will be made at the contract unit price for each type of drain fill, complete in place. Except as otherwise specified in Section 9, such payment will constitute full compensation for all labor, materials, equipment and all other items necessary and incidental to the performance of the work.

Compensation for any item of work described in the contract but not listed in the bid schedule will be included in the payment for the item of work to which it is made subsidiary. Such items and the items to which they are made subsidiary are identified in Section 9 of this specification.

9. ITEM OF WORK AND CONSTRUCTION DETAILS

Item of work to be performed in conformance with this specification and the construction details is:

a. Bid Item 9, Filter Material

(1) This item shall consist of the filter material as shown on the drawings.

(2) In Section 2, Materials:

(a) Material Specification 521 shall not apply. Filter material shall meet the following gradation requirements:

<u>Sieve Size</u>	<u>Percent Passing (by weight)</u>
3/8"	100
No. 4	95 - 100
No. 8	80 - 100
No. 16	50 - 85
No. 30	25 - 60
No. 50	10 - 30
No. 100	2 - 10
No. 200	0 - 05

Drain fill and filter aggregates shall be sand, gravel or crushed stone or mixtures thereof. They shall be composed of clean, hard, durable mineral particles free from organic matter, clay balls, soft particles or other substances that would interfere with their free-draining properties. Not more than 15 percent, by weight, shall be flat, elongated particles.

Aggregates of crushed limestone shall be thoroughly washed and screened. Coarse aggregates containing crushed limestone shall have not more than 3 percent, by weight, of particles finer than the No. 4 sieve. Crushed limestone shall not be used for fine aggregates except in combination with other materials such that not more than 5 percent of the portion finer than the No. 4 sieve shall be crushed limestone.

Aggregates shall be tested for soundness according to ASTM C 88, and shall have a weighted average loss in five cycles of not more than 12 percent when sodium sulfate is used or 18 percent when manganese iron sulfate is used.

Drain fill and filter aggregate shall conform to the specified grading limits after being placed in the work, and after being compacted if compaction is specified. Grading shall be determined by ASTM C 136, but the percentage of material finer than a No. 200 sieve shall be not more than 5 percent when determined by ASTM C 117.

Drain fill and filter aggregates shall be stored and handled by methods that prevent segregation of particle sizes or contamination by mixing with other materials.

- (3) In Section 6, Compaction, class III compaction shall be used for filter material.

b. Bid Item 10, Bedding Material

- (1) This item shall consist of the bedding material as shown on the drawings.

- (2) In Section 2, Materials:

Bedding material shall meet the following gradation requirements:

Sieve Size (Inches)	Percent Passing (by Weight)
4	100
3½	90 - 100
2½	25 - 60
1½	0 - 15
¾	0 - 5

- (3) Section a.(2)(a) in Bid Item 9, Filter Material, shall apply.
- (4) In Section 6, Compaction, Class III compaction shall be used for bedding material.

CONSTRUCTION SPECIFICATION

32. CONCRETE FOR MINOR STRUCTURES

1. SCOPE

The work shall consist of furnishing, forming, placing, finishing and curing portland cement concrete as required to build the structures named in Section 24 of this specification.

2. MATERIALS

Portland cement shall conform to the requirements of Material Specification 531 for the specified type.

Aggregates shall conform to the requirements of Material Specification 522 unless otherwise specified. The grading of coarse aggregates shall be as specified in Section 24.

Water shall be clean and free from injurious amounts of oil, salt, acid, alkali, organic matter or other deleterious substances.

Preformed expansion joint filler shall conform to the requirements of Material Specification 535.

Waterstops shall conform to the requirements of Material Specification 537 and 538 for the specified kinds.

3. CLASS OF CONCRETE

Concrete for minor structures shall be classified as follows:

Class of Concrete	Maximum Net Water Content (Gallons/bag)	Minimum Cement Content (Bags/cu. yd.)
3000M	7	6

4. AIR CONTENT AND CONSISTENCY

Unless otherwise specified, the slump shall be 2 to 4 inches. If air entrainment is specified, the air content by volume shall be 5 to 8 percent of the volume of the concrete. When specified or when directed by the Engineer, a water-reducing, set-retarding admixture approved by the Engineer shall be used.

5. DESIGN OF THE CONCRETE MIX

The proportions of the aggregates shall be such as to produce a concrete mixture that will work readily into the corners and angles of the forms

and around reinforcement when consolidated, but will not segregate or exude free water during consolidation.

Prior to placement of concrete, the Contractor shall furnish the Engineer, for approval, a statement of the materials and mix proportions (including admixtures, if any) he intends to use. The statement shall include evidence satisfactory to the Engineer that the materials and proportions will produce concrete conforming to this specification. The materials and proportions so stated shall constitute the "job mix". After a job mix has been approved, neither the source, character or grading of the aggregates nor the type or brand of cement or admixture shall be changed without prior notice to the Engineer. If such changes are necessary, no concrete containing such new or altered materials shall be placed until the Engineer has approved a revised job mix.

6. INSPECTION AND TESTING

The Engineer shall have free entry to the plant and equipment furnishing concrete under the contract. Proper facilities shall be provided for the Engineer to inspect materials, equipment and processes and to obtain samples of the concrete. All tests and inspections will be conducted so as not to interfere unnecessarily with manufacture and delivery of the concrete.

7. HANDLING AND MEASUREMENT OF MATERIALS

Materials shall be stockpiled and batched by methods that will prevent segregation or contamination of aggregates and insure accurate proportioning of the ingredients of the mix.

Except as otherwise provided in Section 8, cement and aggregates shall be measured as follows:

Cement shall be measured by weight or in bags of 94 pounds each. When cement is measured in bags, no fraction of a bag shall be used unless weighed.

Aggregates shall be measured by weight. Mix proportions shall be based on saturated, surface-dry weights. The batch weight of each aggregate shall be the required saturated, surface-dry weight plus the weight of surface moisture it contains.

Water shall be measured, by volume or by weight, to an accuracy within one percent of the total quantity of water required for the batch.

Admixtures shall be measured within a limit of accuracy of three percent.

8. MIXERS AND MIXING

Concrete shall be uniform and thoroughly mixed when delivered to the work. Variations in slump of more than one inch within a batch will be considered evidence of inadequate mixing and shall be corrected by increasing mixing time or other means.

For stationary mixers, the mixing time after all cement and aggregates are in the mixer drum shall be not less than 1½ minutes. When concrete is mixed in a truck mixer, the number of revolutions of the drum or blades at mixing speed shall be not less than 70 nor more than 100.

Unless otherwise specified, volumetric batching and continuous mixing at the construction site will be permitted if approved by the Contracting Officer. The batching and mixing equipment shall conform to the requirements of ASTM Specification C 685 and shall be demonstrated prior to placement of concrete, by tests with the job mix, to produce concrete meeting the specified proportioning and uniformity requirements. Concrete made by this method shall be produced, inspected, and certified in conformance with Sections 6., 7., 8., 13., and 14. of ASTM Specification C 685.

No mixing water in excess of the amount called for by the job mix shall be added to the concrete during mixing or hauling or after arrival at the delivery point.

9. FORMS

Forms shall be of wood, plywood, steel or other approved material and shall be mortar tight. The forms and associated falsework shall be substantial and unyielding and shall be constructed so that the finished concrete will conform to the specified dimensions and contours. Form surfaces shall be smooth and free from holes, dents, sags or other irregularities. Forms shall be coated with a nonstaining form oil before being set into place.

Metal ties or anchorages within the forms shall be equipped with cones, she-bolts or other devices that permit their removal to a depth of at least one inch without injury to the concrete. Ties designed to break off below the surface of the concrete shall not be used without cones.

All edges that will be exposed to view when the structure is completed shall be chamfered, unless finished with molding tools as specified in Section 18.

10. PREPARATION OF FORMS AND SUBGRADE

Prior to placement of concrete the forms and subgrade shall be free of chips, sawdust, debris, water, ice, snow, extraneous oil, mortar, or other harmful substances or coatings. Any oil on the reinforcing steel or other surfaces required to be bonded to the concrete shall be removed. Rock surfaces shall be cleaned by air-water cutting, wet sandblasting or wire brush scrubbing, as necessary, and shall be wetted immediately prior to placement of concrete. Earth surfaces shall be firm and damp. Placement of concrete on mud, dried earth or uncompacted fill or frozen subgrade will not be permitted.

Unless otherwise specified, when concrete is to be placed over drain fill, the contact surface of the drain fill shall be covered with a layer

of asphalt-impregnated building paper or polyvinyl sheeting prior to placement of the concrete. Forms for weepholes shall extend through this layer into the drain fill.

Items to be embedded in the concrete shall be positioned accurately and anchored firmly.

Weepholes in walls or slabs shall be formed with nonferrous materials.

11. CONVEYING

Concrete shall be delivered to the site and discharged into the forms within 1½ hours after the introduction of the cement to the aggregates. In hot weather or under conditions contributing to quick stiffening of the concrete, the time between the introduction of the cement to the aggregates and discharge shall not exceed 45 minutes. The Engineer may allow a longer time, provided the setting time of the concrete is increased a corresponding amount by the addition of an approved set-retarding admixture. In any case, concrete shall be conveyed from the mixer to the forms as rapidly as practicable by methods that will prevent segregation of the aggregates or loss of mortar. Concrete shall not be dropped more than five feet vertically unless suitable equipment is used to prevent segregation.

12. PLACING

Concrete shall not be placed until the subgrade, forms and steel reinforcement have been inspected and approved. No concrete shall be placed except in the presence of the Engineer. The Contractor shall give reasonable notice to the Engineer each time he intends to place concrete. Such notice shall be far enough in advance to give the Engineer adequate time to inspect the subgrade, forms, steel reinforcement and other preparations for compliance with the specifications before concrete is delivered for placing.

The concrete shall be deposited as closely as possible to its final position in the forms and shall be worked into the corners and angels of the forms and around all reinforcement and embedded items in a manner to prevent segregation of aggregates or excessive laitance. Unless otherwise specified, slab concrete shall be placed to design thickness in one continuous layer. Formed concrete shall be placed in horizontal layers not more than 20 inches thick. Hoppers and chutes, pipes or "elephant trunks" shall be used as necessary to prevent splashing of mortar on the forms and reinforcing steel above the layer being placed.

Immediately after the concrete is placed in the forms, it shall be consolidated by spading, hand tamping or vibration as necessary to insure smooth surfaces and dense concrete. Each layer shall be consolidated to insure monolithic bond with the preceding layer. If the surface of a layer of concrete in place sets to the degree that it will not flow and merge with the succeeding layer when spaded or vibrated, the Contractor shall discontinue placing concrete and shall make a construction joint according to the procedure specified in Section 13.

If placing is discontinued when an incomplete horizontal layer is in place, the unfinished end of the layer shall be formed by a vertical bulkhead.

13. CONSTRUCTION JOINTS

Construction joints shall be made at the locations shown on the drawings. If construction joints are needed which are not shown on the drawings, they shall be placed in locations approved by the Engineer.

Where a feather edge would be produced at a construction joint, as in the top surface of a sloping wall, an insert form shall be used so that the resulting edge thickness on either side of the joint is not less than six inches.

In walls and columns, as each lift is completed, the top surfaces shall be immediately and carefully protected from any condition that might adversely affect the hardening of the concrete.

Steel tying and form construction adjacent to concrete in place shall not be started until the concrete has cured at least 12 hours. Before new concrete is deposited on or against concrete that has hardened, the forms shall be retightened. New concrete shall not be placed until the hardened concrete has cured at least 12 hours.

Surfaces of construction joints shall be cleaned of all unsatisfactory concrete, laitance, coatings or debris by washing and scrubbing with a wire brush or wire broom or by other means approved by the Engineer. The surfaces shall be kept moist for at least one hour prior to placement of the new concrete.

14. EXPANSION AND CONTRACTION JOINTS

Expansion and contraction joints shall be made only at locations shown on the drawings.

Exposed concrete edges at expansion and contraction joints shall be carefully tooled or chamfered, and the joints shall be free of mortar and concrete. Joint filler shall be left exposed for its full length with clean and true edges.

Preformed expansion joint filler shall be held firmly in the correct position as the concrete is placed.

When open joints are specified, they shall be construed by the insertion and subsequent removal of a wooden strip, metal plate or other suitable template in such a manner that the corners of the concrete will not be chipped or broken. The edges of open joints shall be finished with an edging tool prior to removal of the joint strips.

15. WATERSTOPS

Waterstops shall be held firmly in the correct position as the concrete is placed. Joints in metal waterstops shall be soldered, brazed or

welded. Joints in rubber or plastic waterstops shall be cemented, welded or vulcanized as recommended by the manufacturer.

16. REMOVAL OF FORMS

Forms shall not be removed without the approval of the Engineer. Forms shall be removed in such a way as to prevent damage to the concrete. Supports shall be removed in a manner that will permit the concrete to take the stresses due to its own weight uniformly and gradually.

17. FINISHING FORMED SURFACES

Immediately after the removal of the forms:

- a. All fins and irregular projections shall be removed from exposed surfaces.
- b. On all surfaces, the holes produced by the removal of form ties, cone-bolts, and she-bolts shall be cleaned, wetted and filled with a dry-pack mortar consisting of one part portland cement, three parts sand that will pass a No. 16 sieve, and water just sufficient to produce a consistency such that the filling is at the point of becoming rubbery when the material is solidly packed.

18. FINISHING UNFORMED SURFACES

All exposed surfaces of the concrete shall be accurately screeded to grade and then float finished, unless specified otherwise.

Excessive floating or troweling of surfaces while the concrete is soft will not be permitted.

The addition of dry cement or water to the surface of the screeded concrete to expedite finishing will not be allowed.

Joints and edges on unformed surfaces that will be exposed to view shall be chamfered or finished with molding tools.

19. CURING

Concrete shall be prevented from drying for a curing period of at least 7 days after it is placed. Exposed surfaces shall be kept continuously moist for the entire period, or until curing compound is applied as specified below. Moisture shall be maintained by sprinkling, flooding or fog spraying or by covering with continuously moistened canvas, cloth mats, straw, sand or other approved material. Wood forms (except plywood) left in place during the curing period shall be kept wet. Formed surfaces shall be thoroughly wetted immediately after forms are removed and shall be kept wet until patching and repairs are completed. Water or covering shall be applied in such a way that the concrete surface is not eroded or otherwise damaged.

Concrete, except at construction joints, may be coated with an approved curing compound in lieu of continued application of moisture. The compound shall be sprayed on the moist concrete surfaces as soon as free water has disappeared, but shall not be applied to any surface until patching, repairs and finishing of that surface are completed. The compound shall be applied at a uniform rate of not less than one gallon per 150 square feet of surface and shall form a continuous adherent membrane over the entire surface. Curing compound shall not be applied to surfaces requiring bond to subsequently placed concrete, such as construction joints, shear plates, reinforcing steel and other embedded items. If the membrane is damaged during the curing period, the damaged area shall be resprayed at the rate of application specified above.

20. REMOVAL OR REPAIR

When concrete is honeycombed, damaged or otherwise defective, the Contractor shall remove and replace the structure or structural member containing the defective concrete or, where feasible, correct or repair the defective parts. The Engineer will determine the required extent of removal, replacement or repair. Prior to starting repair work the Contractor shall obtain the Engineer's approval of his plan for effecting the repair. The Contractor shall perform all repair work in the presence of the Engineer.

21. CONCRETING IN COLD WEATHER

Concrete shall not be mixed nor placed when the daily minimum atmospheric temperature is less than 40°F unless facilities are provided to prevent the concrete from freezing. The use of accelerators or antifreeze compounds will not be allowed.

22. CONCRETING IN HOT WEATHER

The Contractor shall apply effective means to maintain the temperature of the concrete below 90°F during mixing, conveying and placing.

23. MEASUREMENT AND PAYMENT

For items of work for which specific unit prices are established in the contract, concrete will be measured to the neat lines shown on the drawings and the volume of concrete will be computed to the nearest 0.1 cubic yard. Measurement of concrete placed against the sides of an excavation without the use of intervening forms will be made only to the neat lines or pay limits shown on the drawings. No deduction in volume will be made for chamfers, rounded or beveled edges or for any void or embedded item that is less than three cubic feet in volume.

Payment for each item of concrete for minor structures will be made at the contract unit price or the contract lump sum, whichever is applicable, for that item. Such payment will constitute full compensation for all labor, materials, equipment, transportation, tools, forms, falsework, bracing and all other items necessary and incidental to the completion of the work, except items listed for payment elsewhere in the contract.

Compensation for any item of work described in the contract but not listed in the bid schedule will be included in the payment for the item of work to which it is made subsidiary. Such items and the items to which they are made subsidiary are identified in Section 24 of this specification.

24. ITEMS OF WORK AND CONSTRUCTION DETAILS

Items of work to be performed in conformance with this specification and the construction details are:

a. Subsidiary Item, Concrete

- (1) This item shall consist of all concrete as required to build the concrete footings for Bid Item 14, Metal Plates and the concrete pad for Bid Item 21, 30-Inch CMP.
- (2) In Section 2, Materials, the maximum aggregate size for concrete shall be 3/4 inch.
- (3) In Section 4, Air Content and Consistency, the concrete shall be air entrained. Air Entraining Admixtures shall conform to the requirements of Material Specification 532.
- (4) In Section 4, Air Content and Consistency, and the Section 5, Design of the Concrete Mix, a water reducing or water reducing and set retarding admixture, conforming to Material Specification 533, may be used at the option of the Contractor.
- (5) In Section 23, Measurement and Payment, will not apply. Compensation for concrete will be included in Bid Item 14, Metal Plates and Bid Item 21, 30-Inch CMP. No separate payment for concrete will be made.

CONSTRUCTION SPECIFICATION

51. CORRUGATED METAL PIPE CONDUITS

1. SCOPE

The work shall consist of furnishing and placing circular, arched or elliptical corrugated metal pipe and the necessary fittings.

2. MATERIALS

Pipe and fittings shall conform to the requirements of Material Specification 551 or Material Specification 552, whichever is specified.

3. LAYING AND BEDDING THE PIPE

Unless otherwise specified, the pipe shall be installed in accordance with the manufacturer's recommendations. The pipe shall be laid with the outside laps of circumferential joints pointing upstream and with longitudinal laps at the sides at about the vertical midheight of the pipe. Field welding of corrugated galvanized iron or steel pipe will not be permitted. Unless otherwise specified, the pipe sections shall be joined with standard coupling bands. The pipe shall be firmly and uniformly bedded throughout its entire length to the depth and in the manner specified on the drawings.

Perforated pipe shall be laid with the perforations down and oriented symmetrically about a vertical center line. Perforations shall be clear of any obstructions at the time the pipe is laid.

The pipe shall be loaded sufficiently during backfilling around the sides to prevent its being lifted from the bedding.

4. STRUTTING

When required, struts or horizontal ties shall be installed in the manner specified on the drawings. Struts and ties shall remain in place until the backfill has been placed to a height of 5 feet above the top of the pipe, or has been completed if the finished height is less than 5 feet above the top of the pipe, at which time they shall be removed by the Contractor.

5. HANDLING THE PIPE

The Contractor shall furnish such equipment as is necessary to place the pipe without damaging the pipe or coatings. The pipe shall be transported and handled in such a manner as to prevent bruising, scaling or breaking of the spelter coating or bituminous coating.

6. REPAIR OF DAMAGED COATINGS

Any damage to the zinc coating shall be repaired by thoroughly wire brushing the damaged area, removing all loose and cracked coating, removing all dirt and greasy material with solvent, and painting with two coats of zinc dust-zinc oxide primer conforming to the requirements of Federal Specification TT-P-641, Type III, or zinc dust paint conforming to the requirements of Military Specification MIL-P-21035. If the coating is damaged in any individual area larger than 12 square inches, or if more than 0.2 percent of a total surface area of a length of pipe is damaged, the length will be rejected.

Breaks or scuffs in bituminous coatings that are less than 36 square inches in area shall be repaired by the application of two coats of hot asphaltic paint or a coating of cold-applied bituminous mastic. The repair coating shall be at least 0.05 inches thick after hardening and shall bond securely and permanently to the pipe. The material shall meet the physical requirements for bituminous coatings contained in the references cited in Material Specifications 551 and 552. Whenever individual breaks exceed 36 square inches in area or when the total area of breaks exceeds 0.5 percent of the total surface area of the pipe, the pipe will be rejected.

Bituminous coating damaged by welding of coated pipe or pipe fittings shall be repaired as specified in this section for breaks and scuffs in bituminous coatings.

7. MEASUREMENT AND PAYMENT

For items of work for which specific unit prices are established in the contract, the quantity of each type, class, size and gage of pipe will be determined to the nearest 0.1 foot by measurement of the laid length of pipe along the centerline of the pipe. Payment for each type, class, size and gage of pipe will be made at the contract unit price for that type, class, size and gage of pipe. Such payment will constitute full compensation for furnishing, transporting and installing the pipe and fittings and all other items necessary and incidental to the completion of the work.

Compensation for any item of work described in the contract but not listed in the bid schedule will be included in the payment for the item of work to which it is made subsidiary. Such items and the items to which they are made subsidiary are identified in Section 8 of this specification.

8. ITEMS OF WORK AND CONSTRUCTION DETAILS

Items of work to be performed in conformance with this specification and the construction details are:

a. Bid Item 20, 18-Inch CMP

- (1) This item shall consist of furnishing and installing the 18-inch CMP as shown on the drawings.
- (2) In Section 2, Materials, pipe and fittings shall conform to Material Specification 551 and Federal Specification WW-P-405B for Class 1, Shape 1 corrugated steel pipe.

Base metal shall be 10 gage, (.138-inch) minimum copper steel.

- (3) In Section 3, Laying and Bedding the Pipe, the CMP shall have watertight joints.

b. Bid Item 21, 30-Inch CMP

- (1) This item shall consist of furnishing and installing the 30-inch CMP, including the 54-inch CMP riser, concrete pad and 1/4-inch by 56-inch diameter steel plate, as shown on the drawings.
- (2) In Section 2, Materials, pipe and fittings shall conform to Material Specification 551 and Federal Specification WW-P-405B for class 1, shape 1 corrugated steel pipe.

Base metal shall be 10 gage, (0.138-inch) minimum copper steel.

- (3) In Section 3, Laying and Bedding the Pipe, the CMP shall have watertight joints. The connection of the 30-inch CMP and the 54-inch CMP riser shall also be watertight.
- (4) In Section 7, Measurement and Payment, payment for Bid Item 21, 30-Inch CMP, will include full compensation for the 54-inch CMP riser, the concrete pad, and the 1/4-inch by 56-inch diameter steel plate.

CONSTRUCTION SPECIFICATION

61. LOOSE ROCK RIPRAP

1. SCOPE

The work shall consist of the construction of loose rock riprap revetments and blankets, including filter layers or bedding where specified.

2. MATERIALS

Rock for loose rock riprap shall conform to the requirements of Material Specification 523 or, if so specified, shall be obtained from designated sources.

Rock from designated sources shall be excavated, selected and handled as necessary to meet the quality and grading requirements in Section 9 of this specification. The rock shall conform to the specified grading limits when installed in the riprap.

Filter material shall conform to the requirements of Material Specification 521 unless otherwise specified.

Bedding shall be obtained from the designated sources and shall be selected to meet the quality and grading requirements in Section 9 of this specification.

At least 30 days prior to delivery of material from other than designated sources, the Contractor shall notify the Contracting Officer in writing of the sources from which he intends to obtain the material. The Contractor shall provide the Engineer free access to the sources for the purpose of obtaining samples for testing.

3. SUBGRADE PREPARATION

The subgrade surfaces on which the riprap or bedding course is to be placed shall be cut or filled and graded to the lines and grades shown on the drawings. When fill to subgrade lines is required, it shall consist of approved materials and shall conform to the requirements of the specified class of fill.

Riprap shall not be placed until the foundation preparation is completed and the subgrade surfaces have been inspected and approved by the Engineer.

4. EQUIPMENT-PLACED ROCK RIPRAP

The rock shall be placed by equipment on the surfaces and to the depths specified. The riprap shall be constructed to the full course thickness in one operation and in such a manner as to avoid serious displacement of the underlying materials. The rock shall be delivered and placed in a

manner that will insure that the riprap in place shall be reasonably homogeneous with the larger rocks uniformly distributed and firmly in contact one to another with smaller rocks and spalls filling the voids between the larger rocks.

Riprap shall be placed in a manner to prevent damage to structures. Hand placing will be required to the extent necessary to prevent damage to the permanent works.

5. HAND-PLACED RIPRAP

The rock shall be placed by hand on the surfaces and to the depths specified. It shall be securely bedded with the larger rocks firmly in with smaller rocks and spalls. Smaller rocks shall not be grouped as a substitute for larger rock. Flat slab rock shall be laid on edge.

6. FILTER LAYERS OR BEDDING

When the drawings specify filter layers or bedding beneath riprap, the filter or bedding material shall be spread uniformly on the prepared subgrade surfaces to the depth specified. Compaction of filter layers or bedding will not be required, but the surface of such layers shall be finished reasonably free of mounds, dips or windrows.

7. TESTING

The Engineer will perform such tests as are required to verify that the riprap, filter, and bedding materials and the completed work meet the requirements of the specifications. These tests are not intended to provide the Contractor with the information he needs to assure that the materials and workmanship meet the requirements of the specifications, and their performance will not relieve the Contractor of the responsibility of performing his own tests for that purpose.

8. MEASUREMENT AND PAYMENT

For items of work for which specific unit prices are established in the contract, the quantity of each type of riprap placed within the specified limits will be measured to the nearest ton by actual weight, and the volume of each type of filter layer or bedding will be measured within the specified limits and computed to the nearest cubic yard by the method of average cross-sectional end areas. For each load of rock placed as specified, the Contractor shall furnish to the Engineer a statement-of-delivery ticket showing the weight, to the nearest 0.1 ton, of rock in the load.

Payment for each type of riprap will be made at the contract unit price for that type of riprap. Payment for each type of filter or bedding will be made at the contract unit price for that type of filter or bedding. Such payment will be considered full compensation for all labor, materials, equipment and all other items necessary and incidental to the completion of the riprap, filter layers and bedding.

Compensation for any item of work described in the contract but not listed in the bid schedule will be included in the payment for the item of work to which it is made subsidiary. Such items and the items to which they are made subsidiary are identified in Section 9 of this specification.

9. ITEM OF WORK AND CONSTRUCTION DETAILS

Item of work to be performed in conformance with this specification and the construction details is:

a. Bid Item 11, Loose Rock Riprap

- (1) This item shall consist of furnishing and placing loose rock riprap, including boulders, at the locations as shown on the drawings.
- (2) In Section 2, Materials, rock for loose rock riprap shall meet the following gradation requirements:

LOOSE ROCK RIPRAP

Average Diameter	Percent Larger Than
24	100
18	60 - 90
12	55 - 75
6	15 - 40
3	100

BOULDERS

4-5 feet minimum average diameter

Riprap shall be earth tone, dark grey or brown in color, as approved by the Engineer.

- (3) In Section 4, Equipment - Placed Rock Riprap, the rock shall be placed to result in a reasonably uniform riprap layer not less than the thickness shown on the drawings, with the larger rocks well distributed and the voids between the larger rocks filled with smaller rocks.
- (4) The tolerance for placing rock riprap will be a minus 3 inches to a plus 8 inches from the exterior neat lines indicated on the drawings, except that 20 to 40 percent of the rocks shall extend 12 inches above the neat lines. The extreme minus tolerance shall not be continuous over an area exceeding 25 square feet.

CONSTRUCTION SPECIFICATION

62. GROUTED ROCK RIPRAP

1. SCOPE

The work shall consist of furnishing, transporting, and placing rock and concrete grout in the construction of grouted rock riprap sections.

2. MATERIALS

Rock used in grouted rock riprap construction shall conform to the requirements of Material Specification 523. At least 30 days prior to delivery of rock, the Contractor shall designate in writing the source from which he intends to obtain the rock. The Contractor shall provide the Engineer free access to the source for the purpose of obtaining samples for testing. The size and grading of the rock shall be as specified in the construction details.

Drain materials, when specified, shall conform to the requirements of Material Specification 521.

Portland cement shall conform to the requirements of Material Specification 531 for the specified type.

Aggregates shall conform to the requirements of Material Specification 522, except that the grading for course aggregate shall be as specified in the construction details.

Water shall be clean and free from injurious amounts of oils, acid, alkali, organic matter or other deleterious substances.

Air-entraining admixtures shall conform to the requirements of Material Specification 532.

Curing compound shall conform to the requirements of Material Specification 534.

Other admixtures, when required, shall be as specified in the construction details.

3. SUBGRADE PREPARATION

Riprap or filter shall not be placed until the subgrade surfaces have been inspected and approved by the Engineer.

4. FILTER LAYERS OR BEDDING

When filter layers or bedding beneath the riprap is specified, the drain material shall be spread uniformly on the prepared subgrade surfaces to

the depth shown on the drawings. Compaction of drain material will not be required but the surfaces of such layers shall be finished reasonably free of mounds, dips, or windrows.

5. PLACING ROCK

The rock shall be placed on the surfaces and to the depths specified in such manner as to avoid displacement of the underlying materials. The rock may be equipment or hand placed as necessary to produce a surface in which the tops of the individual rocks do not vary more than the specified deviation from the neat lines shown on the drawings. Double decking of thin, flat rocks to bring the surface up to the required grade will not be permitted.

6. DESIGN OF THE GROUT MIX

The mix proportions for the grout mix shall be as specified in the construction details. During the course of the work the Engineer will require adjustment of the mix proportions whenever necessary. After the mix has been designated, it shall not be changed without the approval of the Engineer.

7. HANDLING AND MEASUREMENT OF MATERIALS

Materials shall be stockpiled and batched by methods that will prevent segregation or contamination of aggregates and insure accurate proportioning of the ingredients of the mix.

Except as otherwise provided in Section 13, cement and aggregates shall be measured as follows:

Cement shall be measured by weight or in bags of 94 pounds each. When cement is measured in bags, no fraction of a bag shall be used unless weighed.

Aggregates shall be measured by weight. Mix proportions shall be based on saturated, surface-dry weights. The batch weight of each aggregate shall be the required saturated, surface-dry weight plus the weight of surface moisture it contains.

Water shall be measured, by volume or by weight, to an accuracy within one percent of the total quantity of water required for the batch.

Admixtures shall be measured within a limit of accuracy of three percent.

8. MIXERS AND MIXING

The mixer, when loaded to capacity, shall be capable of combining the ingredients of the grout mix into a thoroughly mixed and uniform mass and of discharging it with a satisfactory degree of uniformity.

Mixer shall be operated within the limits of the manufacturer's guaranteed capacity and speed of rotation.

The time of mixing after all cement and aggregates are in the mixer drum shall be not less than one minute for mixers having a capacity of one cubic yard or fraction thereof of additional capacity. The batch shall be so charged into the mixer that some water will enter in advance of cement and aggregate, and all mixing water shall be introduced into the drum before one-fourth of the mixing time has elapsed.

When ready-mixed grout mix is furnished, the Contractor shall furnish to the Engineer a delivery ticket showing the time of loading and the quantities of materials used for each load of grout mix.

No mixing water in excess of the amount called for by the job mix shall be added to the grout mix during mixing or hauling or after arrival at the delivery point.

9. CONVEYING AND PLACING

The grout mix shall be delivered to the site and placed within 1-1/2 hours after the introduction of the cement to the aggregates. In hot weather or under conditions contributing to quick stiffening of the concrete, the time between the introduction of the cement to the aggregates and discharge shall not exceed 45 minutes. The Engineer may allow a longer time, provided the setting time of the concrete is increased a corresponding amount by the addition of an approved set-retarding admixture. In any case, concrete shall be conveyed from the mixer to the final placement as rapidly as practicable by methods that will prevent segregation of the aggregates or loss of mortar.

Grout mix shall not be dropped more than 5 feet vertically unless suitable equipment is used to prevent segregation.

The grout mix shall not be placed until the rock riprap has been inspected and approved.

Rock to be grouted shall be kept wet for at least 2 hours prior to and wetted immediately prior to grouting.

The rock riprap shall be flushed with water to remove the fines from the rock prior to placing the grout. The rock shall be kept moist just ahead of the actual placing, but the grout shall not be placed in standing or flowing water. Grout placed on inverts or other nearly level areas may be placed in one course. On slopes, the grout shall be placed in two (2) courses in successive lateral strips approximately ten (10) feet in width starting at the toe of the slope and progressing to the top. The grout shall be delivered to the place of final deposit by approved means and discharged directly on the surface of the rock, using a splash plate of metal or wood to prevent displacement of the rock directly under the discharge. The flow of grout shall be directed with brooms, spades or baffles to prevent it from flowing excessively along the same path and to assure that all intermittent spaces are filled. Sufficient barring shall be done to loosen tight pockets of rock and otherwise aid the penetration of grout so that all voids shall be filled and the grout fully penetrates

the rock blanket. All brooming on the slopes shall be uphill and after the grout has stiffened, the entire surface shall be rebroomed to eliminate runs and to fill voids caused by sloughing.

After completion of any strip or panel, no workman or other load shall be permitted on the grouted surface for a period of twenty-four (24) hours. The grouted surface shall be protected from injurious action by the sun, rain, flowing water and mechanical injury.

10. CURING AND PROTECTION

The surface of the grout shall be prevented from drying for a curing period of at least 7 days after it is placed. Exposed surfaces shall be kept continuously moist for the entire period, or until curing compound is applied as specified below. Moisture shall be maintained by sprinkling, ponding, or fog spraying or by covering with continuously moistened canvas, cloth mats, straw, sand or other approved material. Water or covering shall be applied in such a way that the concrete surface is not eroded or otherwise damaged.

The surface of the grout may be coated with an approved curing compound in lieu of continued application of moisture. The compound shall be sprayed on the moist concrete surfaces as soon as free water has disappeared, but shall not be applied to any surface until finishing of that surface is completed. The compound shall be applied at a uniform rate of not less than one gallon per 150 square feet of surface and shall form a continuous adherent membrane over the entire surface. Curing compound shall not be applied to surfaces requiring bond to subsequently placed concrete. If the membrane is damaged during the curing period, the damaged area shall be resprayed at the rate of application specified above.

Grout mix shall not be placed when the daily minimum temperature is less than 40°F unless facilities are provided to insure that the temperature of the materials is maintained at not less than 50°F nor more than 90°F during placement and the curing period. Grout mix shall not be placed on frozen surfaces. When freezing conditions prevail, rock to be grouted must be covered and heated to a range of 50°F to 90°F for at least 24 hours prior to placing treatment materials.

11. INSPECTING AND TESTING FRESH GROUT

The Engineer will inspect and test grout during the course of the work. Sampling of fresh grout will be done by the methods prescribed in ASTM C172. The volume of each batch will be determined by the methods prescribed in ASTM C138.

The Engineer shall have free entry to all parts of the Contractor's plant and equipment which concern mixing and placing the grout while work on the contract is being performed. Proper facilities shall be provided for the Engineer to inspect materials and processes used in mixing and placing the grout as well as for securing samples of the grout mix. All

tests and inspections shall be so conducted as not to interfere unnecessarily with the mixing and placing of the grout.

When ready-mixed grout is furnished, the Contractor shall furnish to the Engineer a statement of delivery ticket for each batch delivered to the job site. The ticket shall show the total weights in pounds of cement, water, and fine and coarse aggregates, amount of air-entraining agent, time of loading, and the revolution counter reading at the time of batching.

12. MEASUREMENT AND PAYMENT

For items of work for which specific unit prices are established in the contract, the volume of riprap and the volume of filter layers or bedding will be determined from the specified thickness shown on the drawings and the area on which acceptable placement has been made. The volume of grout will be determined from the calculated batch volume and the number of mixed batches delivered to the site and acceptably placed in the work. Payment for riprap; filter or bedding material; and the concrete grout will be made at the contract unit price for each item. Such payment will be considered full compensation for all labor, materials, equipment, and all other items necessary and incidental to the completion of the work.

Compensation for any item of work described in the contract but not listed in the bid schedule will be included in the payment for the item of work to which it is made subsidiary. Such items and the items to which they are made subsidiary are identified in Section 13 of this specification.

13. ITEMS OF WORK AND CONSTRUCTION DETAILS

Items of work to be performed in conformance with this specification and the construction details are:

a. Bid Item 12, Grouted Rock Riprap

- (1) This item shall consist of the grouted rock riprap including the boulders as shown on the drawings.
- (2) In Section 2, Materials, rock for grouted rock riprap shall meet the following gradation requirements:

GROUTED ROCK RIPRAP

Average Diameter	Percent Larger Than
36	0 - 5
24	20 - 50
12	50 - 80
8	95 - 100
6	100

Riprap shall be earth tone, dark grey or brown in color, as approved by the Engineer.

Some additional rock for individual placement of boulders, with 48-inch to 60-inch average diameters, shall be furnished for placement as shown in the drawings.

Dirty rock shall be washed at a location away from the worksite.

Control of gradation will be by visual inspection. The Contractor shall provide two samples of rock, of at least 10 tons each, meeting the specified gradation. One sample shall be placed at the construction site and may become part of the finished riprap section.

The other sample shall be provided at the quarry. These samples shall be used as a frequent reference for judging the gradation of the riprap supplied. Any difference of opinion between the Engineer and the Contractor shall be resolved by dumping and checking the gradation of two random truckloads of rock. Mechanical equipment, a sorting site, and labor needed to assist in checking gradation shall be provided by the Contractor at his expense.

(3) In Section 5, Placing Rock:

- (a) Individual boulders with average diameters from 48 inches to 60 inches, shall be placed at the locations shown on the drawings and as directed by the Engineer.

- (b) The long axis of each individual boulder shall be placed vertical with a minimum of two-thirds of the diameter projecting above the neat lines of the grouted rock riprap. The boulders shall be placed such that adequate anchorage is assured.
- (c) The rock shall be placed to result in a reasonably uniform riprap layer not less than the thickness shown on the drawings, with the larger rocks well distributed and the voids between the larger rocks filled with smaller rocks.
- (d) The tolerance for placing rock riprap shall be a minus 3 inches to a plus 8 inches from the exterior neat lines indicated on the drawings, except that 20 to 40 percent of the rocks shall extend 12 inches above the neat lines. The extreme minus tolerance will not be continuous over an area exceeding 25 square feet.
- (e) In Section 12, Measurement and Payment is changed as follows. For items of work for which specific unit prices are established in the contract, the quantity of each type of riprap placed within the specified limits will be measured to the nearest ton by actual weight. For each load of rock placed as specified, the Contractor shall furnish to the Engineer a statement-of-delivery ticket showing the weight, to the nearest 0.1 ton, of rock in the load.

Payment for each type of riprap will be made at the contract unit price for that type of riprap. Such payment will be considered full compensation for all labor, materials, equipment and all other items necessary and incidental to the completion of the riprap.

b. Bid Item 13, Grout

- (1) This item shall consist of grout, weepholes and stainless steel hardware cloth for the grouted rock riprap as shown on the drawings and as specified herein.
- (2) In Section 6, Design of Grout Mix, the concrete mix for grout shall contain Type D, Water Reducing and Retarding admixture conforming to Material Specification 533, and shall contain not less than 6 sacks of cement per cubic yard of concrete. Cement shall be Type II portland cement. The maximum size of coarse aggregate shall be 3/8 inch.

The slump shall be 6 to 8 inches.

- (3) Weepholes shall be 2½-inch I.D., PVC Schedule 40 pipe. Weep holes shall be placed on a 20 foot grid through all level grouted rock sections. On sloped sections weep holes shall be placed at 10 foot centers, 1.0 foot above the toe of the slope or as shown on the drawings.

Weep holes through level grouted rock areas and as shown on the drawings shall be filled with bedding material.

All weepholes shall have an 8x8 mesh (.035 inch maximum wire diameter) stainless steel wire cloth securely attached, with a nine gage copper wire through holes in the pipe, over the rear opening of each weephole.

- (4) In Section 9, Conveying and Placing, paragraphs 2 and 5 are hereby deleted. The rock riprap shall be washed with water to remove dirt from the rock surfaces prior to placing the grout. The rock shall be kept moist just ahead of the actual placing, but the grout shall not be placed in standing water. Grout placed on inverts or other nearly level areas may be placed in one course. On slopes, the grout shall be placed in successive lateral strips approximately 10 feet in width starting at the toe and progressing to the top of the slope. The grout shall be delivered to the place of final deposit by a concrete pump, at a rate approved by the Engineer, and discharged directly into the voids of the rock blanket. Grout shall not be discharged more than 3-feet vertically from delivery hose outlet. A broom, a shovel or a splash plate shall be used to prevent displacement of the rock directly under the discharge. The flow of the grout shall be directed with brooms, spades or baffles to prevent it from dislodging rocks from the slopes or from flowing excessively along the same path and to assure that all intermittent spaces are filled. Sufficient barring shall be done to loosen tight pockets of rock and otherwise aid the penetration of grout so that all voids shall be filled and grout fully penetrates the rock blanket. Brooming shall proceed immediately following and in conjunction with the grout placement. The entire surface shall be broomed to eliminate runs, footprints, hose marks or other marks caused during placement and to fill voids caused by sloughing. Brooming shall not leave a smooth surface but shall leave approximately one-third of the topmost layer of rocks and those rocks extending above the neat line protruding from the grout. Care shall be made not to splash grout onto the exposed surfaces of the individual boulders. Any grout that is inadvertently slashed onto the boulders shall be broomed off.
- (5) In Section 10, Curing and Protection, the curing compound shall be Type 1-D, clear or translucent with a fugitive dye to aid checking coverage.
- (6) Section 12, Measurement and Payment for grout will be at the contract unit price per cubic yard. Compensation for the weep holes, filter material for the weepholes and the 8x8 mesh (.035 in maximum wire diameter) stainless steel wire cloth will be included in Bid Item 13, Grout. No separate payment will be made for these items.

CONSTRUCTION SPECIFICATION

81. METAL FABRICATION AND INSTALLATION

1. SCOPE

The work shall consist of furnishing, fabricating and erecting metalwork, including the metal parts of composite structures.

2. MATERIALS

Unless otherwise specified, materials shall conform to the requirements of Material Specification 581. Steel shall be structural quality unless otherwise specified. Castings shall be thoroughly cleaned and subjected to careful inspection before installation. Finished surfaces shall be smooth and true to assure proper fit. Galvanizing shall conform to the requirements of Material Specification 582.

3. FABRICATION

Fabrication of structural steel shall conform to the requirements of Section 1.23 of the "Specification for the Design, Fabrication and Erection of Structural Steel for Buildings (Riveted, Bolted and Arc-Welded Construction)," American Institute of Steel Construction.

Fabrication of structural aluminum shall conform to the requirements in the Aluminum Construction Manual, "Specifications for Aluminum Structures," Section 6 and Section 7, The Aluminum Association, November 1967.

4. ERECTION

The frame of metal structures shall be carried up true and plumb. Temporary bracing shall be placed wherever necessary to resist all loads to which the structure may be subjected, including those loads to which the structure may be subjected, including those applied by the installation and operation of equipment. Such bracing shall be left in place as long as may be necessary for safety.

As erection progresses the work shall be securely bolted up, or welded, to resist all dead load, wind and erection stresses. The Contractor shall furnish such fitting up bolts, nuts and washers as may be required.

No riveting or welding shall be done until as much of the structure as will be stiffened thereby has been properly aligned.

Rivets driven in the field shall be heated and driven with the same care as those driven in the shop.

All field welding shall be done in conformance to the requirements for shop fabrication, except those that expressly apply to shop conditions only.

Galvanized items shall not be cut, welded or drilled after the zinc coating is applied.

5. PROTECTIVE COATINGS

Items specified to be galvanized shall be completely fabricated for field assembly before the application of the zinc coatings.

Items specified to be painted shall be painted in conformance to the requirements of Construction Specification 82 for the specified paint systems.

6. MEASUREMENT AND PAYMENT

The work will not be measured. Payment for furnishing, fabricating and installing each item of metalwork will be made at the contract price for that item. Such payment will constitute full compensation for all labor, materials, equipment and all other items necessary and incidental to the completion of the work, including connectors and appurtenances such as rivets, bolts, nuts, pins, studs, washers, hangers, and weld metal.

Compensation for any item of work described in the contract but not listed in the bid schedule will be included in the payment for the item of work to which it is made subsidiary. Such items and the items to which they are made subsidiary are identified in Section 7 of this specification.

7. ITEMS OF WORK AND CONSTRUCTION DETAILS

Items of work to be performed in conformance with this specification and the construction details are:

a. Bid Item 14, Metal Plates

- (1) This item shall consist of the metal plates in the fish ladders as shown on the drawings.
- (2) In Section 2, Materials, the metal plates shall conform to the requirements of ASTM A242 or A588.
- (3) The metal plates shall not be painted, galvanized or otherwise coated.
- (4) The metal plates shall be set vertical and perpendicular to the channel and securely grouted in place.
- (5) In Section 6, Measurement and Payment, payment for Bid Item 14, Metal Plates, will include full compensation for the concrete necessary to build the concrete footings for the metal plates.

CONSTRUCTION SPECIFICATION

400. WILLOW CUTTINGS

1. SCOPE

This work shall consist of preparing the area for treatment, furnishing and planting the willow cuttings in the areas specified herein and as shown on the drawings.

2. MATERIALS

Cuttings--Willow cuttings shall be made from healthy green plants.

Cuts shall be made clean with sharp tools. The butt end of the stem shall be a slant cut and the tip end shall be cut square-across the stem. All leaves shall be removed immediately after the cutting has been taken.

The diameter of the cutting shall not be more than 2 inches at the butt end or smaller than $\frac{1}{4}$ inch at the tip.

The length of the cuttings shall be as follows:

- a. Deep plantings made 3-feet deep shall have a minimum cutting length of 4 feet and a maximum length of 5 feet.
- b. Plantings made in soils moist throughout the year shall have a minimum cutting length of $2\frac{1}{2}$ feet and a maximum length of $3\frac{1}{2}$ feet.

Cuttings shall not be allowed to dry and shall be no more than 5 days old when planted. If the cuttings are not planted the same day they are cut, the method of keeping cuttings moist shall be approved by the Engineer.

No cutting shall be taken from sites or sources without the approval of the Engineer.

3. PLANT TYPES

The woody cuttings shall be willow (*Salix* sp.).

4. PLANTING REQUIREMENTS

Planting shall not begin until approval is given by the Engineer.

Willow cuttings shall be planted in a single row. Plantings shall be spaced 3 feet apart in the row.

Cuttings shall be planted in prepared holes or "V" furrows to avoid stripping the bark, especially in rocky or hard soils. Cutting may be pushed into soil if the soil is saturated. This determination will be made by the Engineer in the field.

Cuttings shall be placed in the soil with the butt end in a downward position.

All cuttings shall have 6 inches to a maximum of 1 foot of at least 2 nodes above the ground level. The exposed tip of each cutting shall be sealed with a tar compound suitable for treating pruning cuts on fruit trees.

Plantings shall be placed into the soil to a depth of at least 3 feet. If however, due to some physical condition of the soil this planting depth cannot be attained, the cuttings shall be set with 3/4 of its length in the ground upon approval of the Engineer. Plantings shall be protected from damage and soil kept moist in the lower two feet of the planting depth for the duration of the contract.

5. MEASUREMENT AND PAYMENT

For items of work for which specific unit prices are established in the contract, the length of each row, along the centerline of the channel will be measured to the nearest foot. Such payment will include full payment for all labor, materials and equipment, and all other items necessary and incidental to the completion of the work.

Compensation for any item of work described in the contract but not listed in the bid schedule will be included in the payment for the item of work to which it is made subsidiary. Such items and the items to which they are made subsidiary are identified in Section 6 of this specification.

6. ITEMS OF WORK AND CONSTRUCTION DETAILS

Items of work to be performed in conformance with this specification and the construction details are:

a. Bid Item 17, Willow Cuttings

- (1) This item shall consist of the single row of willow cuttings at the toe of the loose rock riprap as shown on the drawings.

CONSTRUCTION SPECIFICATION

401. PAVEMENT

1. SCOPE

The work shall consist of furnishing and constructing the paved roadway in Section 7 of this specification.

2. MATERIALS

Materials specified in the Caltrans Specifications shall meet the following additional conditions.

- a. Mineral aggregate base shall be Class 2 conforming to the grading for 3/4-inch maximum in Section 26, Aggregate Bases.
- b. Liquid asphalt prime coat shall be grade SC-70 conforming to the requirements of Section 93, and shall be applied at the rate of 0.30 gallons per square yard.
- c. Tack coat shall be an asphaltic emulsion. Prior to applying the tack coat, the existing concrete surface shall be thoroughly swept clean and washed clean with water. The concrete surface shall be thoroughly dry before tack coat is applied.
- d. A fog seal coat shall be applied to the surfacing at an application rate of 0.10 gallons per square yard conforming to the requirements of Section 37.
- e. Asphaltic concrete shall be Type B conforming to the requirements of Section 38. Surface courses shall be 0.25 feet unless specified otherwise, and shall contain 1/2-inch maximum size aggregate with medium grading. Base courses shall be 3/4-inch maximum aggregate with medium grading. The amount of asphalt binder to be mixed with the aggregate shall be between 6 percent and 8 percent of weight of the dry aggregate.

3. APPLICABLE STANDARD SPECIFICATIONS

Unless otherwise specified, all work specified herein shall conform to the requirements of Caltrans Specifications, 1981 Edition, herein referred to as the "State Standard Specifications."

4. SCHEDULING

Unless otherwise directed, all locations shall be maintained open to the flow of public traffic at all times during the construction by means of constructing and maintaining detours as required.

5. ROAD CONSTRUCTION

All roadways shall be constructed to the lines and grades as shown on the drawings. Subgrade shall be constructed to the grading plane of the existing road base or to the grading plane of the road base as shown on the drawings, whichever depth is greater. Embankment for shoulders and other untraveled portions of the roadway shall be constructed to the lines and grades as shown on the drawings or as otherwise directed by the Engineer.

Aggregate base or aggregate surfacing shall have a minimum depth of 6 inches as shown on the drawings or match the existing base depth, whichever is greater.

Road surfacing shall be asphaltic concrete with a minimum thickness of 3 inches as shown on the drawings.

Utility access facilities such as cleanouts, water valve covers and man-holes shall be adjusted to finished grade.

6. MEASUREMENT AND PAYMENT

Asphalt concrete, unless otherwise specified, will be paid for at the contract price per square yard.

Payment for the quantity of road work will be made at the contract unit prices for each type of road surface, complete in place. Such payment will constitute full compensation for materials, grading, placing, compacting and for all other items necessary and incidental to the performance of the work.

Compensation for an item of work described in the contract but not listed in the bid schedule will be included in the payment for the item of work to which it is made subsidiary. Such items and the item to which they are made subsidiary are identified in Section 7 of this specification.

7. ITEMS OF WORK AND CONSTRUCTION DETAILS

Items of work to be performed in conformance with this specification and the construction details are:

a. Bid Item 18, Road Pavement

- (1) This item shall consist of the paved levee road as shown on the drawings.
- (2) The subgrade and roadway earth fill shall be completed to the lines and grades shown on the drawings. Approval by the Engineer shall be obtained before placement of the pavement.

CONSTRUCTION SPECIFICATION

402. PUBLIC SAFETY

1. SCOPE

The work shall consist of providing for public safety and maintaining traffic control.

2. TRAFFIC AND ACCESS

The Contractor's operations shall cause no unnecessary inconvenience to the public. The access rights of the public shall be considered at all times. Unless otherwise authorized, traffic shall be permitted to pass through the work on approved or specified detours.

3. STORAGE OF EQUIPMENT AND MATERIALS IN PUBLIC STREETS

Construction materials may not be stored in streets, roads or highways. All such materials or equipment not installed or used in the construction shall be stored elsewhere by the Contractor at his expense.

4. SIGNS, LIGHTS, AND DEVICES

All signs, lights, barricades, and use of flagmen shall conform to the current requirements set forth in the current "Manual of Warning Signs, Lights, and Devices for Use in Performance of Work upon Highways," issued by the State of California, Business and Transportation Agency, Department of Transportation and any local requirements by the city of Gilroy or the Santa Clara Valley Water District.

5. MEASUREMENT AND PAYMENT

For items of work for which specific lump sum prices are established in the contract, payment for the work will be made at the contract lump sum price. Such payment will constitute full compensation for all labor, materials, equipment and all other items necessary and incidental to completion of the work.

Compensation for any item of work described in the contract but not listed in the bid schedule will be included in the payment for the item of work to which it is made subsidiary. Such items and the item to which they are made subsidiary are identified in Section 6 of this specification.

6. ITEMS OF WORK AND CONSTRUCTION DETAILS

Items of work to be performed in conformance with this specification and the construction details are:

a. Bid Item 19, Public Safety

- (1) This item includes furnishing, installing and maintaining all access to adjacent property; all barricades, signs, warnings, lighting, striping and flagmen necessary to control and protect all traffic, pedestrians and cyclists from the work and of complying with permits or any other public convenience and safety work which is not specifically covered by any other items of work.
- (2) The Contractor shall meet the requirements of all agencies having jurisdiction in traffic control including the California Department of Transportation, the City of Gilroy and the Santa Clara Valley Water District.
- (3) All traffic controls shall be provided with adequate warning light during hours of darkness.
- (4) In Section 5, Measurement and Payment, compensation for complying with the permits will be included in Bid Item 19, Public Safety. No separate payment will be made for this item.

MATERIAL SPECIFICATIONS

MATERIAL SPECIFICATION

522. AGGREGATE FOR PORTLAND CEMENT CONCRETE

1. SCOPE

This specification covers the quality of fine aggregate and coarse aggregate for use in the manufacture of portland cement concrete.

2. QUALITY

Aggregate shall conform to the requirements of ASTM Specification C-33 for the specified sizes. Aggregates that fail to meet any requirement may be accepted only when: (1) the specified alternate conditions of acceptance can be proved prior to the use of the aggregates on the job and within a period of time such that no work under the contract will be delayed by the requirements of such proof; or, (2) the specification for concrete expressly contains a provision of special mix requirements to compensate for the effects of the deficiencies.

3. REACTIVITY WITH ALKALIES

The potential reactivity of aggregates with the alkalies in cement shall be evaluated by petrographic examination and, where applicable, the chemical method of test, ASTM Designation C 289, or by the results of previous tests or service records of concrete made from similar aggregates from the same source. The standards for evaluating potential reactivity shall be as described in ASTM Specification C 33, Appendix A1.

Aggregates indicated by any of the above to be potentially reactive shall not be used, except under one of the following conditions:

- a. Applicable test results of mortar bar tests, made according to ASTM Method C 227, are available which indicate an expansion of less than 0.10 percent at six months in mortar bars made with cement containing not less than 0.8 percent alkalies expressed as sodium oxide; or
- b. Concrete made from similar aggregates from the same source has been demonstrated to be sound after 3 years or more of service under conditions of exposure to moisture and weather similar to those anticipated for the concrete under these specifications.

Aggregates indicated to be potentially reactive, but within acceptable limits as determined by mortar bar test results or service records, shall be used only with "low alkali" cement, containing less than 0.60 percent alkalies expressed as sodium oxide.

4. STORING AND HANDLING

Aggregate of each class and size shall be stored and handled by methods that prevent segregation of particle sizes or contamination by intermixing with other materials.

MATERIAL SPECIFICATION

523. ROCK FOR RIPRAP

1. SCOPE

This specification covers the quality of rock to be used in the construction of rock riprap.

2. QUALITY

Individual rock fragments shall be dense, sound and free from cracks, seams and other defects conducive to accelerated weathering. The rock fragments shall be angular to subrounded in shape. The least dimension of an individual rock fragment shall be not less than one-third the greatest dimension of the fragment.

Except as provided below, the rock shall have the following properties:

- a. Bulk specific gravity (saturated surface-dry basis) not less than 2.5.
- b. Absorption not more than 2 percent.
- c. Soundness: Weight loss in 5 cycles not more than 10 percent when sodium sulfate is used or 15 percent when magnesium sulfate is used.

The bulk specific gravity and absorption shall be determined by ASTM Method C 127. The test for soundness shall be performed by ASTM Method C 88 for coarse aggregate modified as follows:

The test sample shall not be separated into fractions. It shall consist of 5000 ± 300 grams of rock fragments, reasonably uniform in size and shape and weighing approximately 100 grams each, obtained by breaking the rock and selecting fragments of the required size.

After the sample has been dried, following completion of the final test cycle and washing to remove the sodium sulfate or magnesium sulfate, the loss of weight shall be determined by subtracting from the original weight of the sample the final weight of all fragments which have not broken into three or more pieces.

The report shall show the percentage loss of weight and the results of the qualitative examination.

Rock that fails to meet the requirements stated in a, b, and c above, may be accepted only if similar rock from the same source has been demonstrated to be sound after 5 years or more of service under conditions of weather, wetting and drying, and erosive forces similar to those anticipated for the rock to be installed under this specification.

3. GRADING

The rock shall conform to the specified grading limits after it has been placed in the riprap.

MATERIAL SPECIFICATION

531. PORTLAND CEMENT

1. SCOPE

This specification covers the quality of portland cements.

2. QUALITY

Portland cement shall conform to the requirements of ASTM Specification C 150 for the specified types of cement, except that, when Type I portland cement is specified, Type IS portland blast-furnace slag cement or Type IP portland-pozzolan cement conforming to the requirements of ASTM Specification C 595 may be used unless prohibited in the specifications.

If air-entraining cement is to be used, the Contractor shall furnish the manufacturer's written statement giving the source, amount and brand name of the air-entraining addition.

3. STORAGE AT THE CONSTRUCTION SITE

Cement shall be stored in such a manner as to be protected from weather, dampness or other destructive agencies. Cement that is partially hydrated or otherwise damaged will be rejected.

MATERIAL SPECIFICATION

532. AIR-ENTRAINING ADMIXTURES (FOR CONCRETE)

1. SCOPE

This specification covers the quality of air-entraining admixtures for concrete.

2. QUALITY

Air-entraining admixtures shall conform to the requirements of ASTM Specification C 260, except that the relative durability factor in the freezing and thawing test shall be not less than 95.

MATERIAL SPECIFICATION

533. WATER-REDUCING AND SET-RETARDING ADMIXTURES FOR PORTLAND CEMENT CONCRETE

1. SCOPE

This specification covers the quality of water-retarding and set-retarding admixtures for portland cement concrete.

2. QUALITY

Water-reducing and set-retarding admixtures shall conform to the requirements of ASTM Specification C 494, except that resistance to freezing and thawing shall be determined in all cases, and the minimum relative durability factor shall be 95.

3. TYPES

Admixtures shall be Type A, Water-Reducing or Type D, Water-Reducing and Retarding, as defined in ASTM Specification C 494.

4. PERFORMANCE IN THE JOB MIX

When added in the manner and amount recommended by the manufacturer to the concrete used on the job, with no change in the cement content or proportions of the aggregates, admixtures shall have the following effects:

Type A or Type D: The water content at the required slump shall be at least 5 percent less with the admixture than without. The air content shall remain within the range specified, but shall not exceed 8 percent in any case.

Type D: The time of initial setting, determined as prescribed in ASTM C 494, shall be from 1 to 3 hours longer with the admixture than without.

MATERIAL SPECIFICATION

534. CURING COMPOUND (FOR CONCRETE)

1. SCOPE

This specification covers the quality of liquid membrane-forming compounds suitable for spraying on concrete surfaces to retard the loss of water during the curing process.

2. QUALITY

The curing compound shall meet the requirements of ASTM Specification C 309.

Unless otherwise specified, the compound shall be Type 2.

3. DELIVERY AND STORAGE

All curing compound shall be delivered to the site of the work in the original container bearing the name of the manufacturer and the brand name. The compound shall be stored in a manner to prevent damage to the containers and to protect water-emulsion types from freezing.

MATERIAL SPECIFICATION

551. ZINC-COATED IRON OR STEEL CORRUGATED PIPE

1. SCOPE

This specification covers the quality of zinc-coated iron or steel corrugated pipe and fittings.

2. PIPE

Zinc-coated iron or steel corrugated pipe and fittings shall conform to the requirements of Interim Federal Specification WW-P-405 for the specified classes and shapes of pipe, and to the following additional requirements:

- a. Unless otherwise specified, circumferential shop riveted seams shall have a maximum rivet spacing of 6 inches, except that 6 rivets will be sufficient for 12-inch diameter pipe;
- b. When close riveted pipe is specified: (1) the pipe shall be fabricated so that the rivet spacing in the circumferential seams shall not exceed 3 inches, except that 12 rivets will be sufficient to secure the circumferential seams in 12-inch pipe, and (2) in those portions of the longitudinal seams that will be covered by the coupling bands the rivets shall have finished flat heads or the rivets and holes shall be omitted and the seams shall be connected by welding to provide a minimum of obstruction to the seating of the coupling bands.
- c. Double riveting or double spot welding of pipe less than 42 inches in diameter may be required. When double riveting or double spot welding is specified, the riveting or welding shall be done in the manner specified for pipe 42 inches or greater in diameter.

3. COATINGS

Coatings shall conform to the requirements of Interim Federal Specification WW-P-405 for the specified types of coatings.

MATERIAL SPECIFICATION

581. METAL

1. SCOPE

This specification covers the quality of steel and aluminum alloys.

2. STRUCTURAL STEEL

Structural steel shall conform to the requirements of ASTM Specification A 36.

High-strength low-alloy structural steel shall conform to ASTM Specification A 242 or A 588.

Carbon steel plates of structural quality to be bent or formed cold shall conform to ASTM Specification A 283, Grade C.

Carbon steel sheets of structural quality shall conform to ASTM Specification A 570, Grade D, or A 611, Grade D.

Carbon steel strips of structural quality shall conform to ASTM Specification A 570, Grade C.

3. COMMERCIAL OR MERCHANT QUALITY STEEL

Commercial or merchant quality steel shall conform to the requirements of the applicable ASTM specifications listed below:

Product	ASTM Specification
Carbon Steel Bars	A 575, Grade M 1015 to Grade M 1031
Carbon Steel Sheets	A 569
Carbon Steel Strip	A 569
Zinc-coated Carbon Steel Sheets	A 526

4. ALUMINUM ALLOY

Aluminum alloy products shall conform to the requirements of the applicable ASTM specifications listed below. Unless otherwise specified, Alloy 6061-T6 shall be used.

Product	ASTM Specification
Standard Structural Shapes	B 308
Extruded Structural Pipe and Tube	B 429
Extruded Bars, Rods, Shapes and Tubes	B 221
Drawn Seamless Tubes	B 210
Rolled or Cold-finished Bars, Rods and Wire	B 211
Sheet and Plate	B 209

5. BOLTS

Steel bolts shall conform to the requirements of ASTM Specification A 307. If high-strength bolts are specified they shall conform to the requirements of ASTM Specification A 325.

When galvanized or zinc-coated bolts are specified, the zinc coating shall conform to the requirements of ASTM Specification A 153; except that bolts 1/2 inch or less in diameter may be coated with electro-deposited zinc or cadmium coating conforming to the requirements of ASTM Specification A 164, Type RS, or ASTM Specification A 165, Type TS, unless otherwise specified.

6. RIVETS

Unless otherwise specified, steel rivets shall conform to the requirements of ASTM Specification A 502, Grade 1.

Unless otherwise specified, aluminum alloy rivets shall be Alloy 6061-T6 conforming to the requirements of ASTM Specification B 316.

7. WELDING ELECTRODES

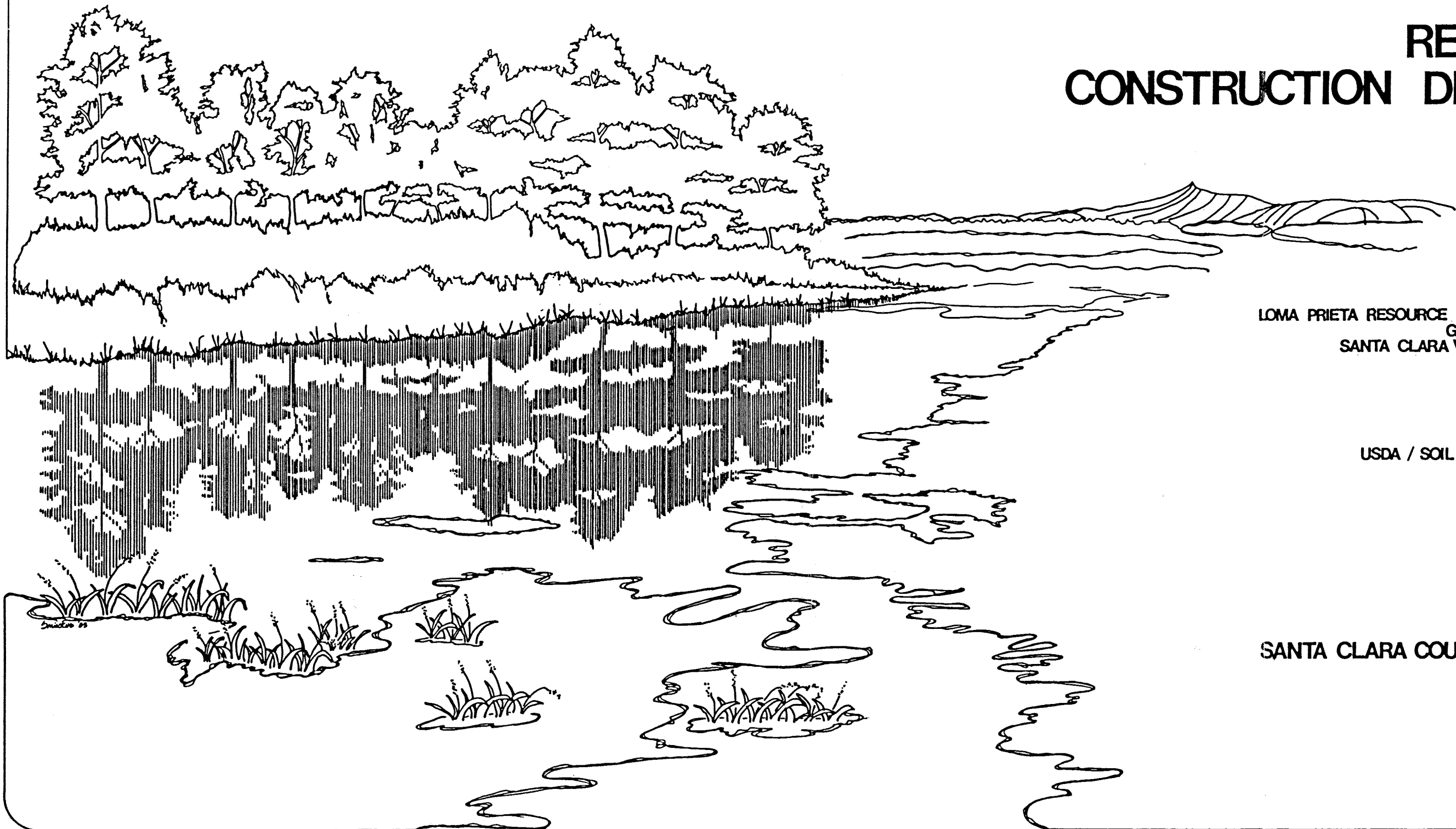
Steel welding electrodes shall conform to the requirements of American Welding Society Specification AWS A5.1, "Specification for Mild Steel Covered Arc-Welding Electrodes," except that they shall be uniformly and heavily coated (not washed) and shall be of such a nature that the coating will not chip or peel while being used with the maximum amperage specified by the manufacturer.

Aluminum welding electrodes shall conform to the requirements of American Welding Society Specification AWS A5.10, "Specification for Aluminum and Aluminum-Alloy Welding Rods and Bare Electrodes."

DRAWINGS

LOWER LLAGAS CREEK WATERSHED

REACH 2-B CONSTRUCTION DRAWINGS



sponsored by
LOMA PRIETA RESOURCE CONSERVATION DISTRICT
GAVILAN WATER DISTRICT
SANTA CLARA VALLEY WATER DISTRICT

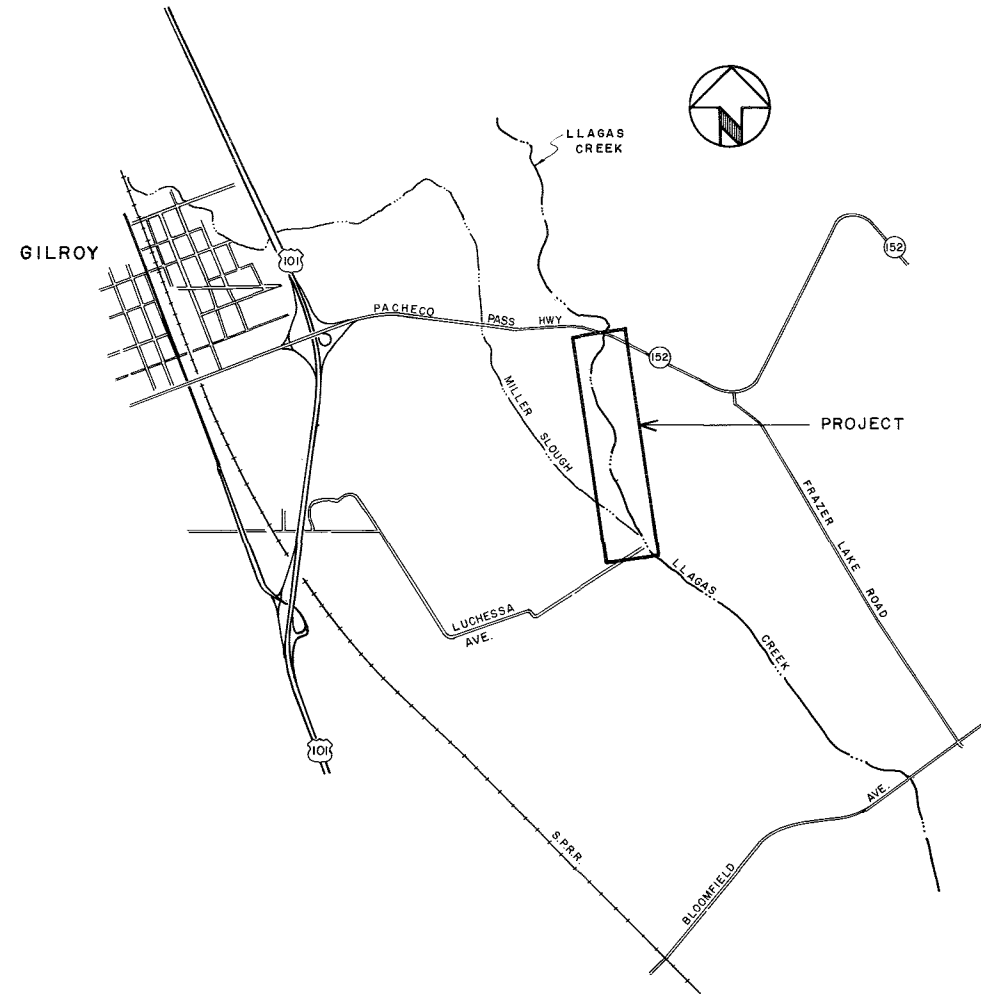
prepared by
USDA / SOIL CONSERVATION SERVICE
CALIFORNIA



SANTA CLARA COUNTY, CALIFORNIA

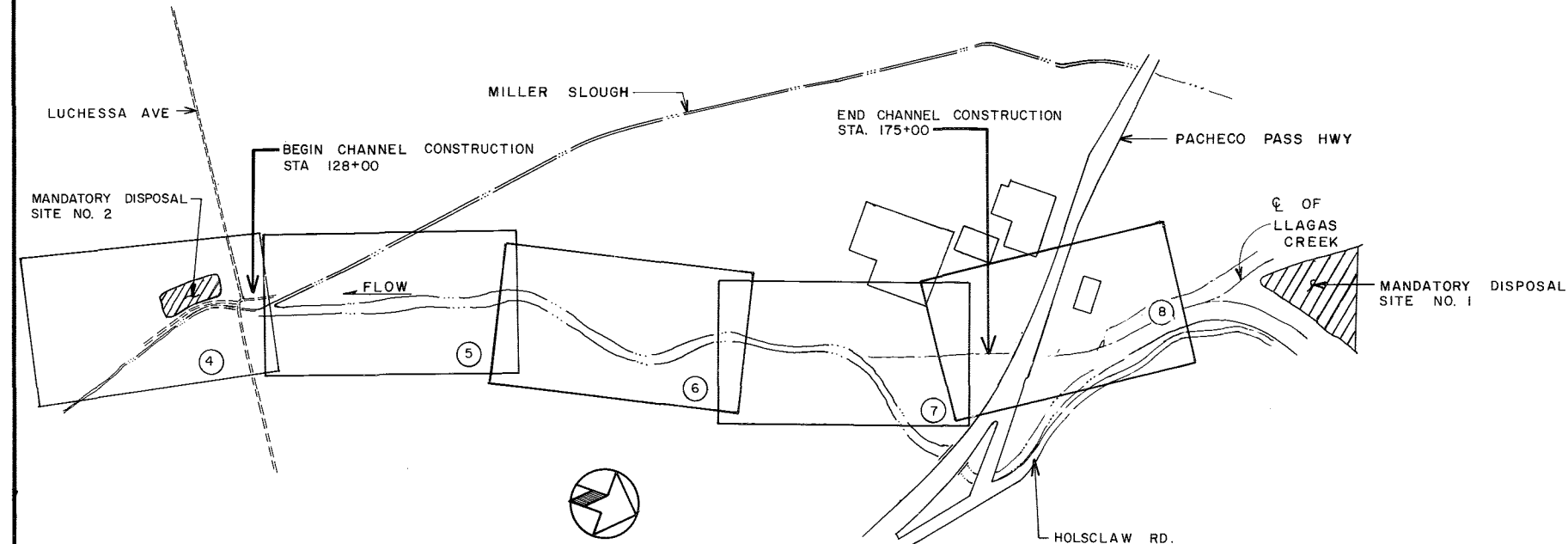


LOCATION MAP



VICINITY MAP

SCALE: 1" = 2000'



SHEET LAYOUT

SCALE: 1" = 500'

GENERAL NOTES

1. ALL CROSS-SECTIONS ARE VIEWED LOOKING UPSTREAM UNLESS NOTED OTHERWISE.
2. REFERENCE TO LEFT AND RIGHT ARE MADE LOOKING UPSTREAM.
3. TREES, STRUCTURES, FENCES, ETC. TO BE PROTECTED IN PLACE WILL BE DESIGNATED BY SPECIAL MARKINGS.
4. THE BASIS OF BEARINGS FOR THESE DRAWINGS IS THE CALIFORNIA COORDINATE SYSTEM ZONE III.
5. THE BASIS OF ELEVATIONS IS USC & GS S-148, A BRASS DISC SET IN A CONCRETE POST 3' EASTERLY OF J.P. #3871 ON EASTERLY SIDE OF HOLSCLAW ROAD NEAR JUNCTION OF ROAD WITH LLAGAS CREEK. ELEVATION = 183.08' (1929 DATUM, UPDATED 1967).

LOCATION & VICINITY MAPS, SHEET LAYOUT & NOTES

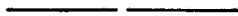
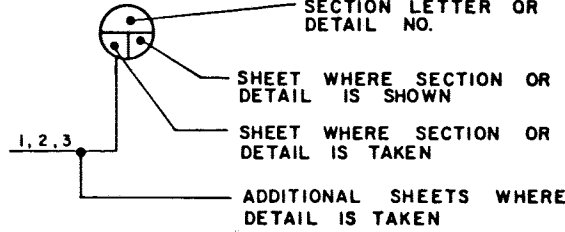
LOWER LLAGAS CREEK REACH 2B
LOWER LLAGAS CREEK WATERSHED
SANTA CLARA COUNTY, CALIFORNIA

**U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE**

SANTA CLARA VALLEY
WATER DISTRICT

APPROVED *R. A. Smith* 11/1/83
FLOOD CONTROL MANAGER DATE

Designed <i>M. K. HALLET</i> 11-1-83	Approved by <i>D. E. Twiss</i>
Drawn <i>G. E. BUCKNELL</i> 6-83	Title <i>State Conservation Engineer</i>
Checked <i>D. E. TWISS</i> 10-83	Approved by <i>D. E. Twiss</i>
Checked <i>Charles Davis</i>	Title <i>Head, Engineering Staff, WNTC</i>
State Design Engineer	Sheet Drawing No.
Checked <i>EBL</i> 11/83	No. 2 of 34
	CA-E-23910

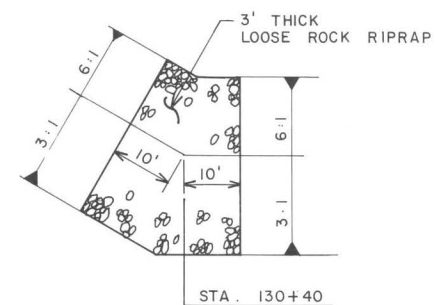
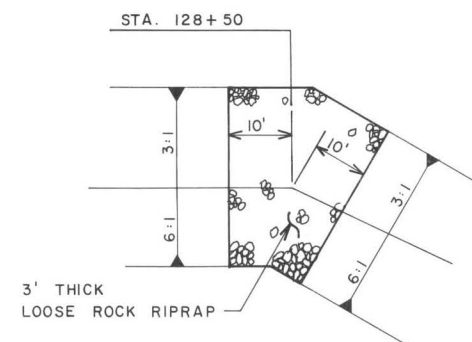
ABBREVIATIONS		& SYMBOLS	
A.C.	ASPHALT CONCRETE		℄ - CENTERLINE
A.P.	ANGLE POINT		R/W - RIGHT OF WAY
B.C.	BEGIN CURVE		T. C/E - TEMPORARY CONSTRUCTION EASEMENT
C.C.	CENTER TO CENTER		
C.J.	CONSTRUCTION JOINT		
C.M.P.	CORRUGATED METAL PIPE		
DIA.(Ø)	DIAMETER		PIPE LINE
E.C.	END CURVE		DRAINAGE DITCH
EL.	ELEVATION		
EXIST	EXISTING		
HWY.	HIGHWAY		SECTION LETTER OR DETAIL NO. SHEET WHERE SECTION OR DETAIL IS SHOWN SHEET WHERE SECTION OR DETAIL IS TAKEN ADDITIONAL SHEETS WHERE DETAIL IS TAKEN
INV.	INVERT		
MAINT.	MAINTENANCE		
MAX.	MAXIMUM		
MIN.	MINIMUM		
NO.	NUMBER		
OPT.	OPTIONAL		
P.V.C.	POLYVINYL CHLORIDE		WATER SURFACE
RD.	ROAD		D.H. BORING LOCATION
R/W	RIGHT-OF-WAY		A.C. PAVING
SHT.	SHEET		GROUTED ROCK RIPRAP
Ss.	SLOPE		LOOSE ROCK RIPRAP
STA.	STATION		FILTER MATERIAL
TYP.	TYPICAL		BEDDING MATERIAL
			WILLOW CUTTINGS

SCHEDULE OF DRAWINGS					
DRAWING NO.	SHEET NO.	TITLE	DRAWING NO.	SHEET NO.	TITLE
CA-E-23910	1	COVER SHEET	CA-E-23910	26	CROSS SECTIONS
CA-E-23910	2	LOCATION & VICINITY MAPS, SHEET LAYOUT & NOTES	CA-E-23910	27	CROSS SECTIONS
CA-E-23910	3	SCHEDULE OF DRAWINGS	CA-E-23910	28	CROSS SECTIONS
CA-E-23910	4	PLAN STA. 128 + 00.00 TO STA. 131 + 00.00	CA-E-23910	29	CROSS SECTIONS
CA-E-23910	5	PLAN STA. 131 + 00.00 TO STA. 145 + 00.00	CA-E-23910	30	CROSS SECTIONS
CA-E-23910	6	PLAN STA. 145 + 00.00 TO STA. 159 + 50.00	CA-E-23910	31	CROSS SECTIONS
CA-E-23910	7	PLAN STA. 159 + 50.00 TO STA. 173 + 80.00	CA-E-23910	32	CROSS SECTIONS
CA-E-23910	8	PLAN STA. 173 + 80.00 TO STA. 187 + 00.00	CA-E-23910	33	SOIL BORINGS LOG
CA-E-23910	9	PROFILE STA. 124 + 35.92 TO STA. 145 + 00.00	CA-E-23910	34	SOIL BORINGS LOG
CA-E-23910	10	PROFILE STA. 145 + 00.00 TO STA. 173 + 80.00			
CA-E-23910	11	PROFILE STA. 173 + 80.00 TO STA. 178 + 00.00			
CA-E-23910	12	TYPICAL CROSS SECTIONS			
CA-E-23910	13	DROP STRUCTURE NO. 1			
CA-E-23910	14	PLAN & PROFILE - FISH LADDER NO. 1			
CA-E-23910	15	TYPICAL SECTIONS & DETAILS			
CA-E-23910	16	DROP STRUCTURE NO. 2			
CA-E-23910	17	PLAN & PROFILE - FISH LADDER NO. 2			
CA-E-23910	18	SECTIONS			
CA-E-23910	19	DROP STRUCTURE NO. 3			
CA-E-23910	20	PLAN & PROFILE - FISH LADDER NO. 3			
CA-E-23910	21	TYPICAL SECTIONS & DETAILS			
CA-E-23910	22	BOULDER LOCATIONS			
CA-E-23910	23	18 INCH C.M.P. DETAILS			
CA-E-23910	24	18 INCH C.M.P. DETAILS & A.C. PAVING DETAILS			
CA-E-23910	25	30 INCH C.M.P. DETAILS			

SCHEDULE OF DRAWINGS			
LOWER LLAGAS CREEK REACH 2B			
LOWER LLAGAS CREEK WATERSHED			
SANTA CLARA COUNTY, CALIFORNIA			
U. S. DEPARTMENT OF AGRICULTURE			
SOIL CONSERVATION SERVICE			
Designed	M.E.K.	Date	6-83
Drawn	J.C.P.	Date	6-83
Traced		Date	
Checked	D.E.T.	Date	10-83
Sheet		Drawing No.	
3		CA-E-23910	

CITY OF GILROY

CLEARING AND GRUBBING REQUIRED
GRADE FILL TO DRAIN
COMPACTION NOT REQUIRED
LIMITS TO BE STAKED IN THE FIELD

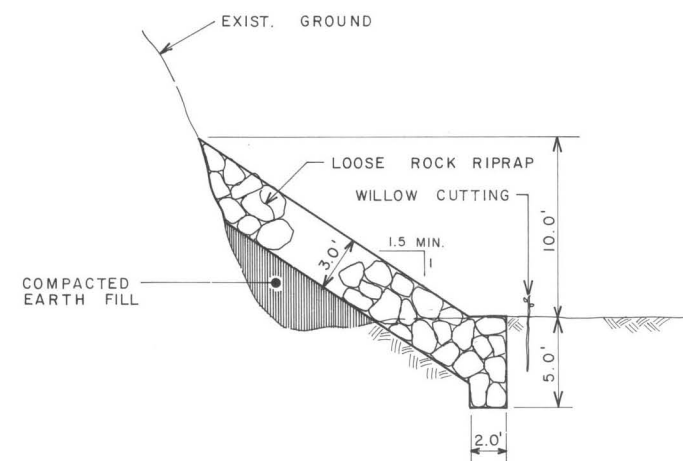


16 DETAIL NO. 1
44 LOW FLOW ROCK RIPRAP
NO SCALE

17
4 4

DETAIL NO. 2

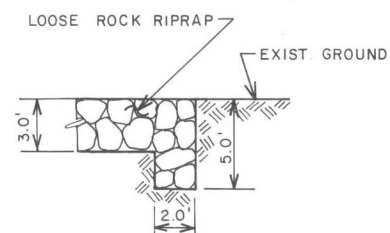
LOW FLOW ROCK RIPRAP
NO SCALE



14
4 4

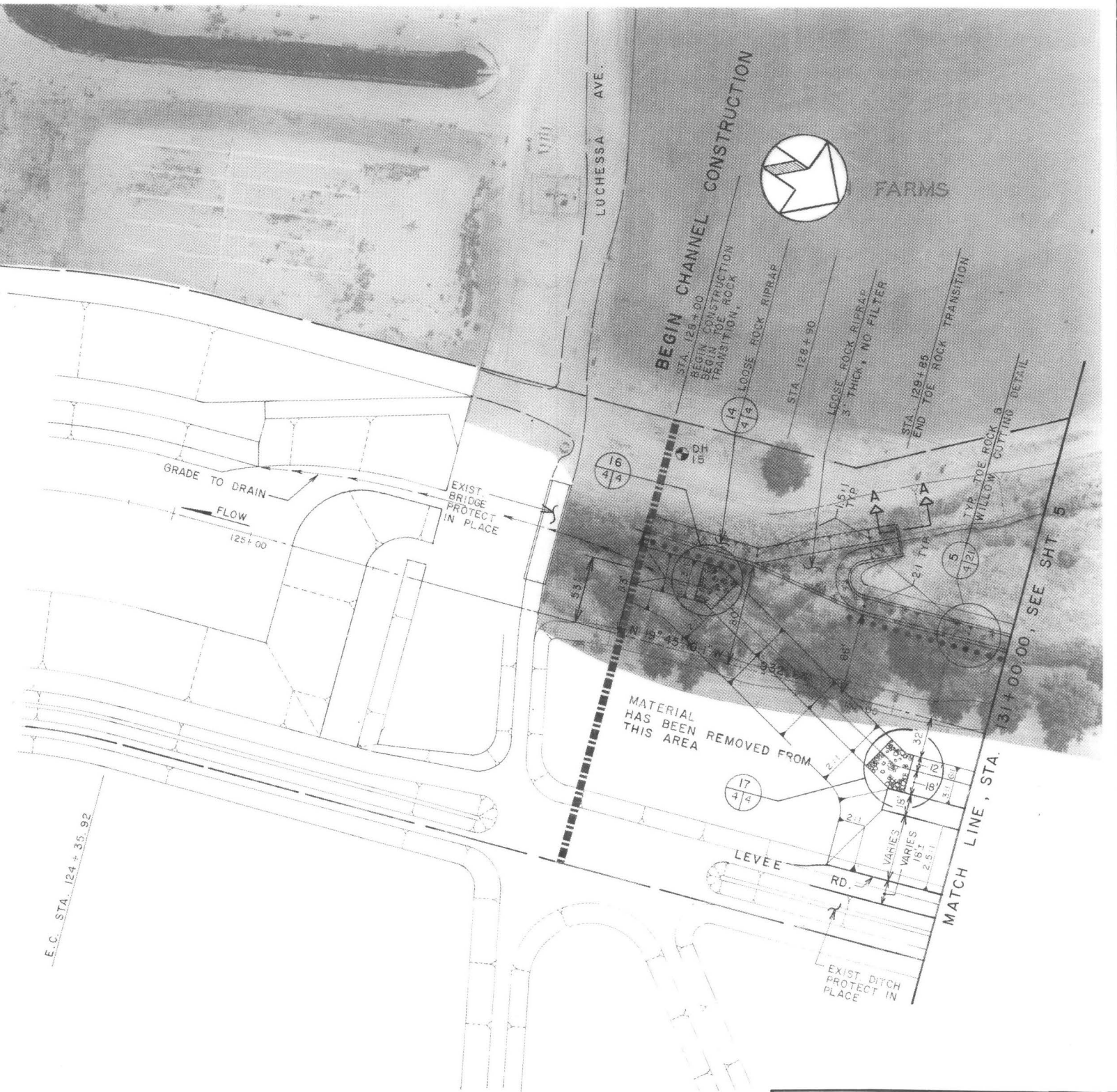
LOOSE ROCK
RIPRAP DETAIL

NO SCALE



SECTION A-A
NO SCALE

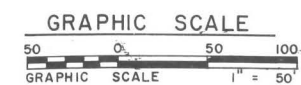
PLAN
SCALE : 1" = 5'

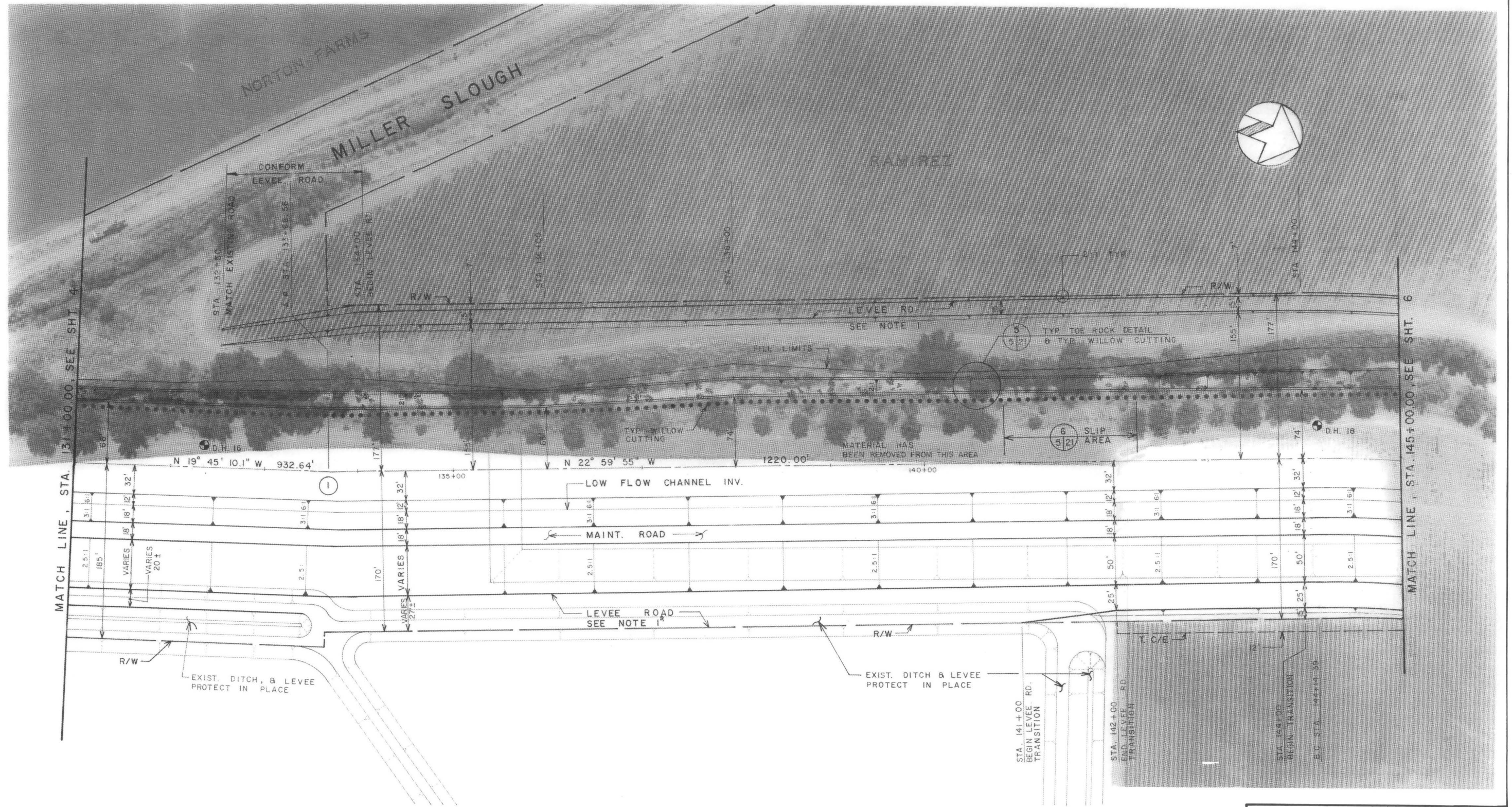


PLAN STA.128+00.00 TO STA.131+00.00
LOWER LLAGAS CREEK REACH 2B
LOWER LLAGAS CREEK WATERSHED
SANTA CLARA COUNTY, CALIFORNIA

 U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

Designed.....		Date.....	
M. E. K.		8-83	
Drawn.....		Title.....	
G. E. B.		8-83	
Traced.....		Title.....	
Checked.....		Drawing No.....	
D. E. T.		10-83	
		Sheet No. 4 of 34	
		CA-E-23910	





PLAN

SCALE: 1" = 50'

① ANGLE POINT DATA

Δ = 3° 14' 44.9"

NOTES

- FROM STA. 130+00 TO STA. 141+00 GRADE TO MATCH EXISTING RIGHT LEVEE ROAD ELEVATION 172.0

GRAPHIC SCALE



PLAN STA. 131+00.00 TO STA. 145+00.00
LOWER LLAGAS CREEK REACH 2B
LOWER LLAGAS CREEK WATERSHED
SANTA CLARA COUNTY, CALIFORNIA

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

Designed M. E. K.	Date 8-83	Title
Drawn G. E. B.	Date 8-83	Title
Traced	Sheet No. 5 of 34	Drawing No.
Checked D. E. T.	Date 10-83	CA-E-23910



② C CURVE DATA

Δ = 19° 45' 37"
R = 1000.00'
T = 174.17'
L = 344.88'

③ C CURVE DATA

Δ = 21° 25' 16"
R = 1500.00'
T = 283.71'
L = 560.81'

GRAPHIC SCALE



PLAN STA. 145+00.00 TO STA. 159+50.00
LOWER LLAGAS CREEK REACH 2B
LOWER LLAGAS CREEK WATERSHED
SANTA CLARA COUNTY, CALIFORNIA

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

Designed	M.E.K.	Date	8-83
Drawn	G.E.B.	Date	8-83
Traced		Sheet	No. 6
Checked	D.E.T.	Date	10-83
		Drawing No.	CA-E-23910



④ ANGLE POINT DATA
 $\Delta = 2^\circ 54' 47.2''$



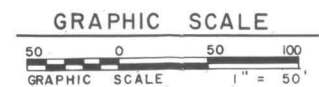
PLAN STA 159+50.00 TO STA. 173+80.00
 LOWER LLAGAS CREEK REACH 2B
 LOWER LLAGAS CREEK WATERSHED
 SANTA CLARA COUNTY, CALIFORNIA

U. S. DEPARTMENT OF AGRICULTURE
 SOIL CONSERVATION SERVICE

Designed	M. E. K.	Date	8-83
Drawn	G. E. B.	Title	
Traced		Sheet	No. 7
Checked	D. E. T.	Drawing No.	CA-E-23910
		of 34	



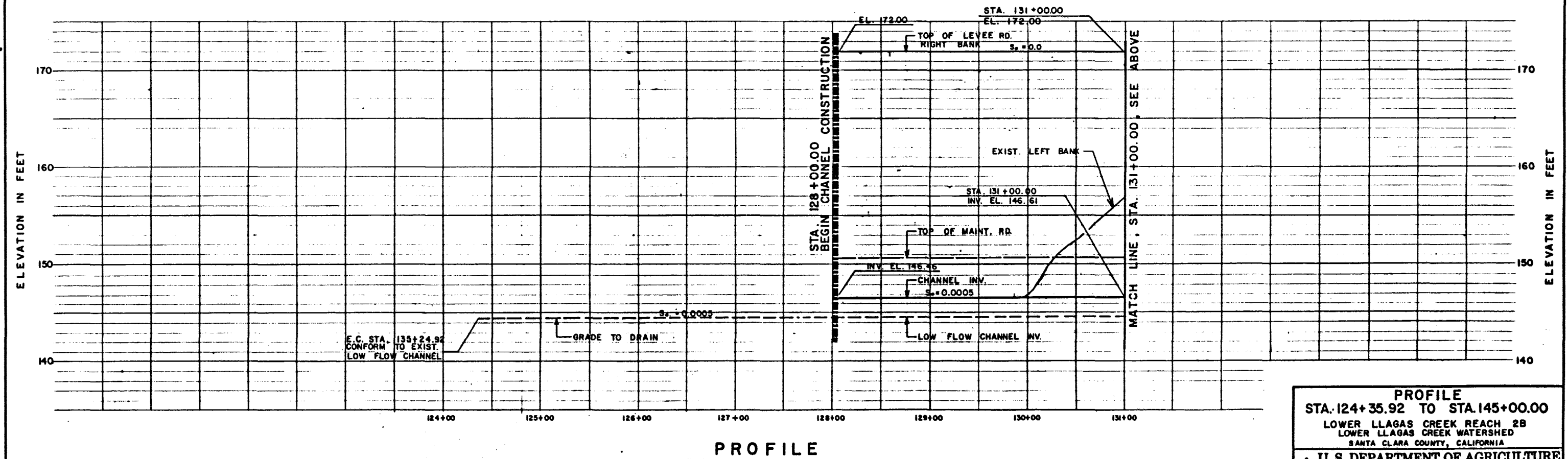
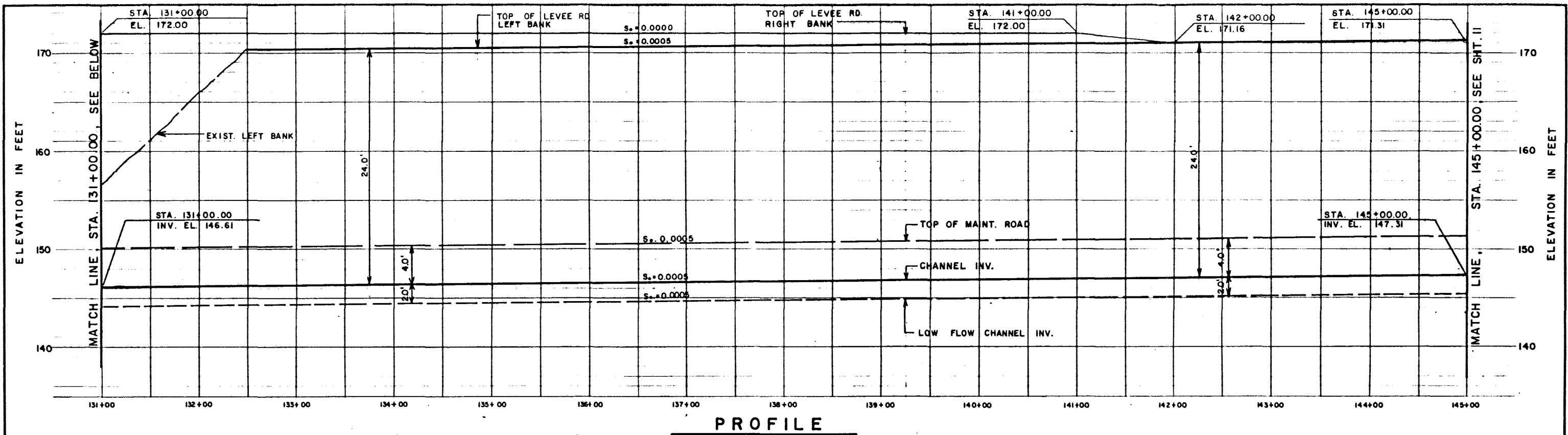
⑤ CURVE DATA	
Δ =	27° 45' 13"
R =	755.00'
T =	186.52'
L =	365.72'



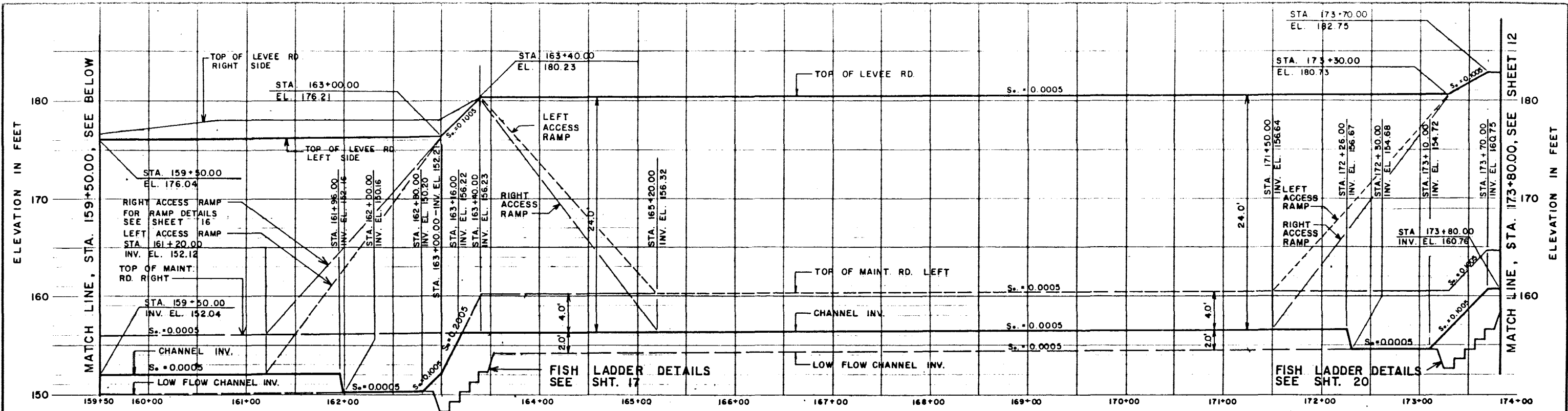
PLAN STA. 173+80.00 TO STA. 187+00.00
LOWER LLAGAS CREEK REACH 2B
LOWER LLAGAS CREEK WATERSHED
SANTA CLARA COUNTY CALIFORNIA

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

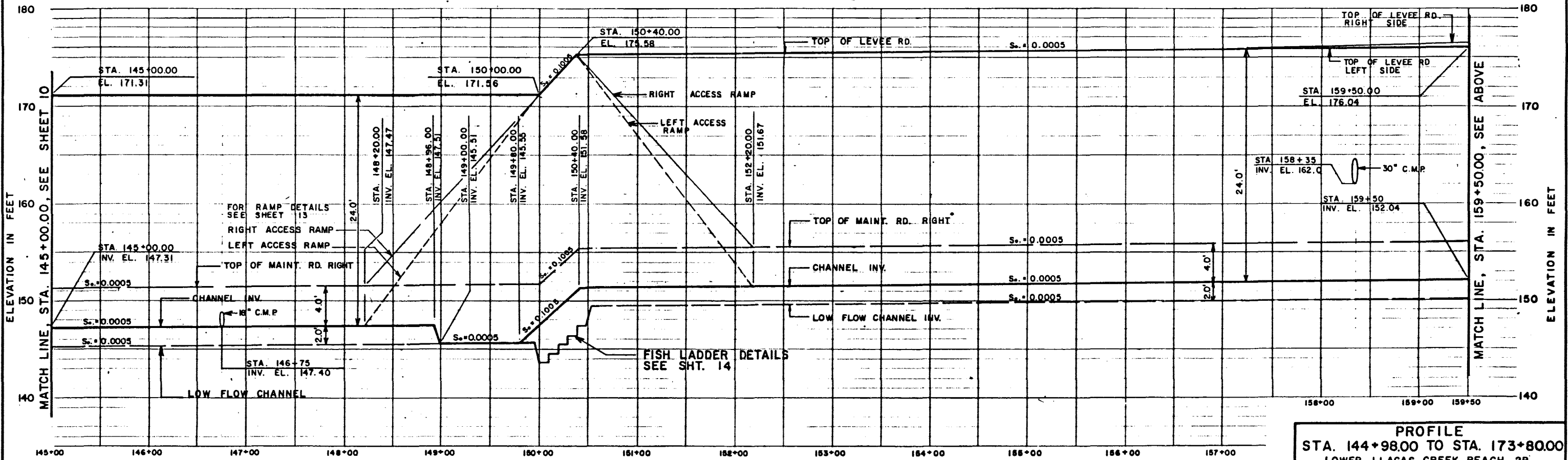
Designed	M. E. K.	Date	8-83	Title	
Drawn	G. E. B.	Date	8-83	Title	
Traced		Sheet	No 8	Drawing No.	
Checked	D. E. T.	Date	10-83	or 34	CA-E-23910



PROFILE			
STA. 124+35.92 TO STA. 145+00.00			
LOWER LLAGAS CREEK REACH 2B			
LOWER LLAGAS CREEK WATERSHED			
SANTA CLARA COUNTY, CALIFORNIA			
U. S. DEPARTMENT OF AGRICULTURE			
SOIL CONSERVATION SERVICE			
Designed	M.E.K.	Date	7-83
Drawn	G.E.B.	Date	7-83
Traced		Date	
Checked	D.E.T.	Date	10-83
			Sheet No. 9 of 34
			Drawing No. CA-E-23910/



PROFILE



PROFILE

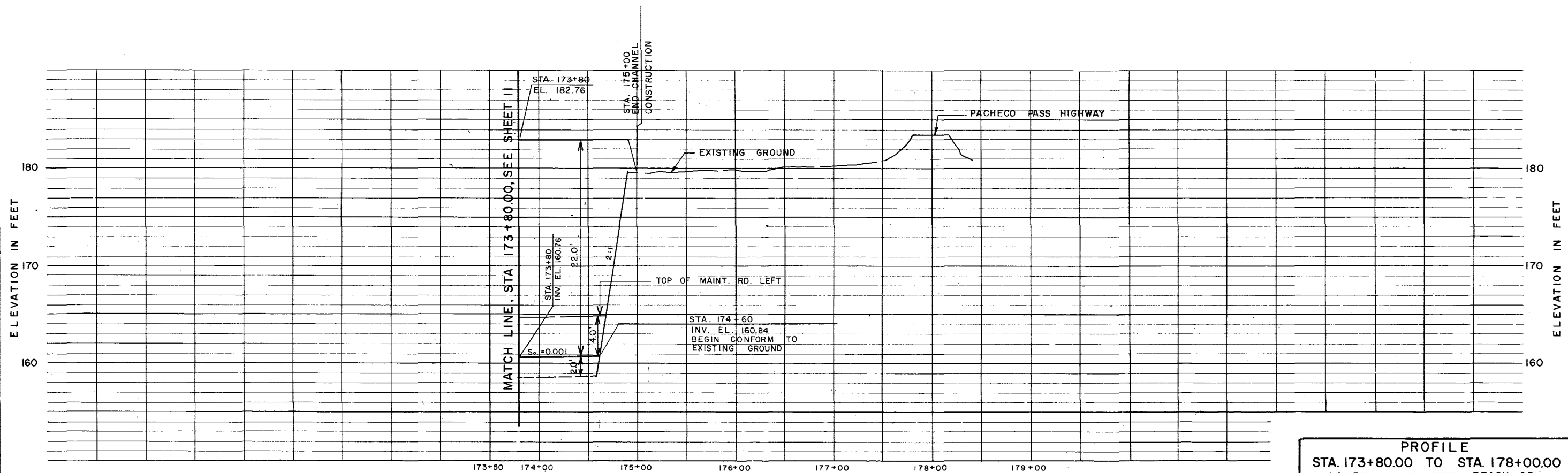
PROFILE
 STA. 144+98.00 TO STA. 173+80.00
 LOWER LLAGAS CREEK REACH 2B
 LOWER LLAGAS CREEK WATERSHED
 SANTA CLARA COUNTY, CALIFORNIA

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

Designed M.E.K.	Date 7-83
Drawn D.M.R., G.E.R.	Title 7-83
Traced	Time
Checked D.E.T.	Sheet 10
	Drawing No. CA-E-23910

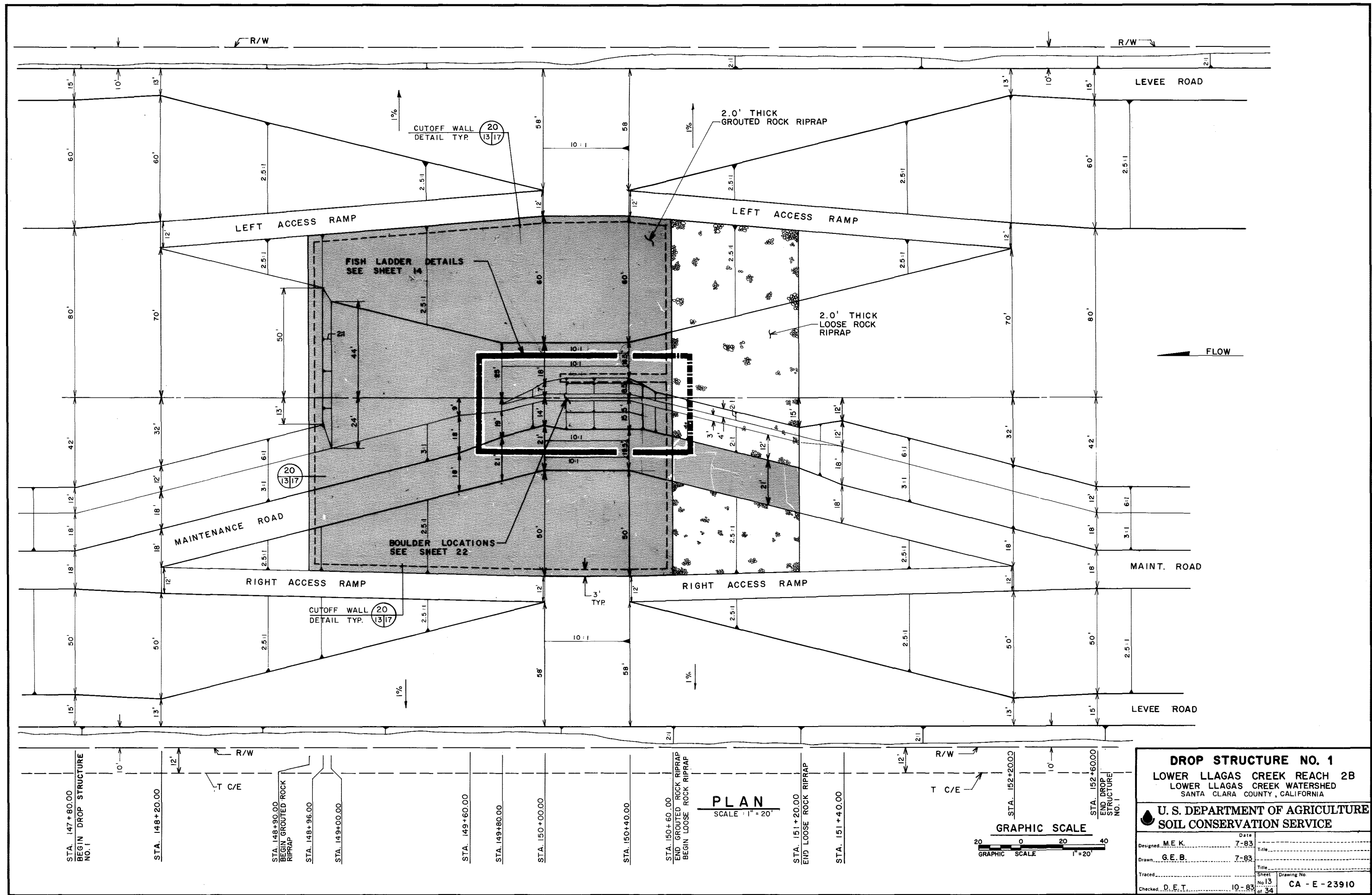
ELEVATION IN FEET

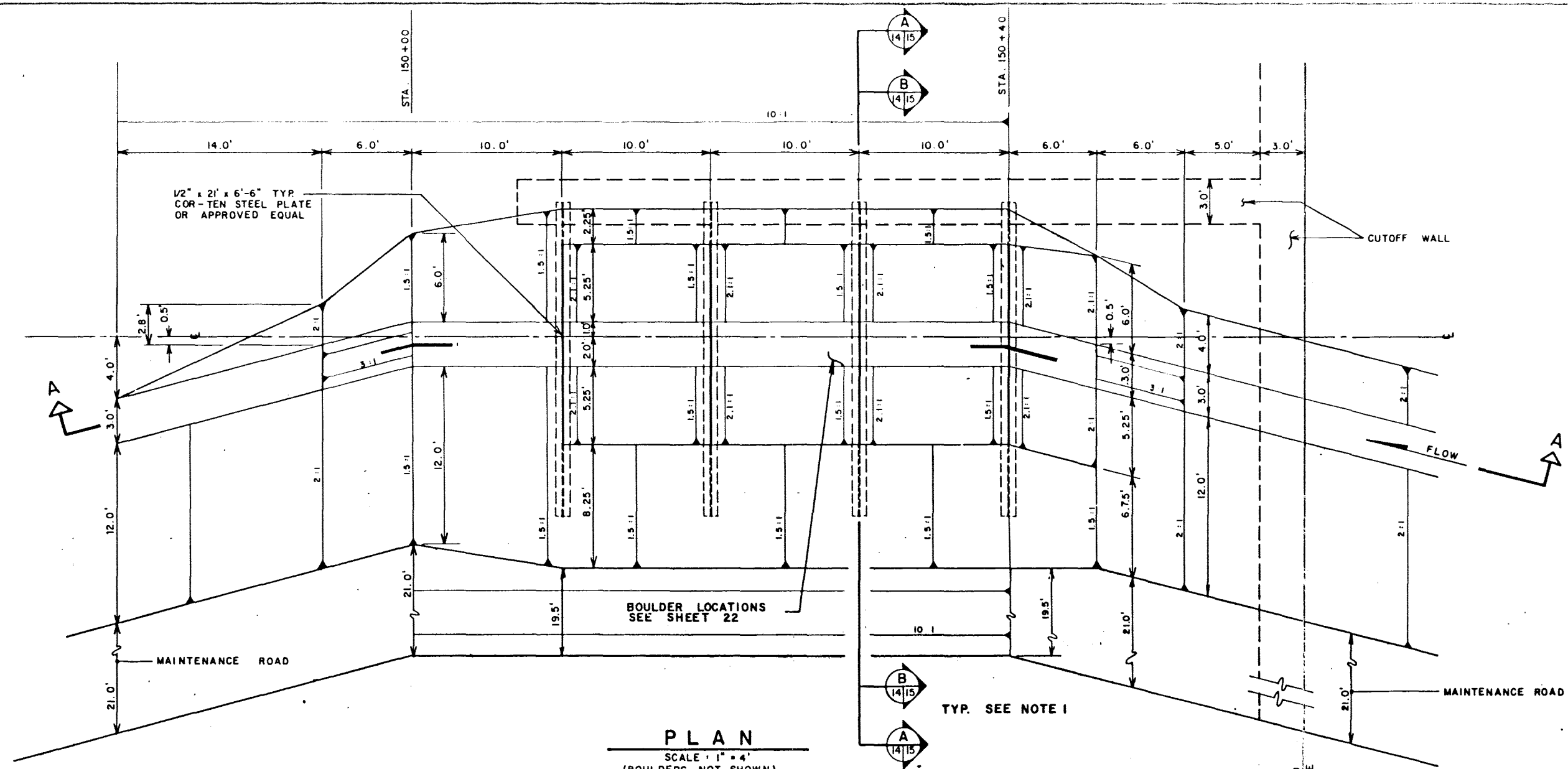
ELEVATION IN FEET



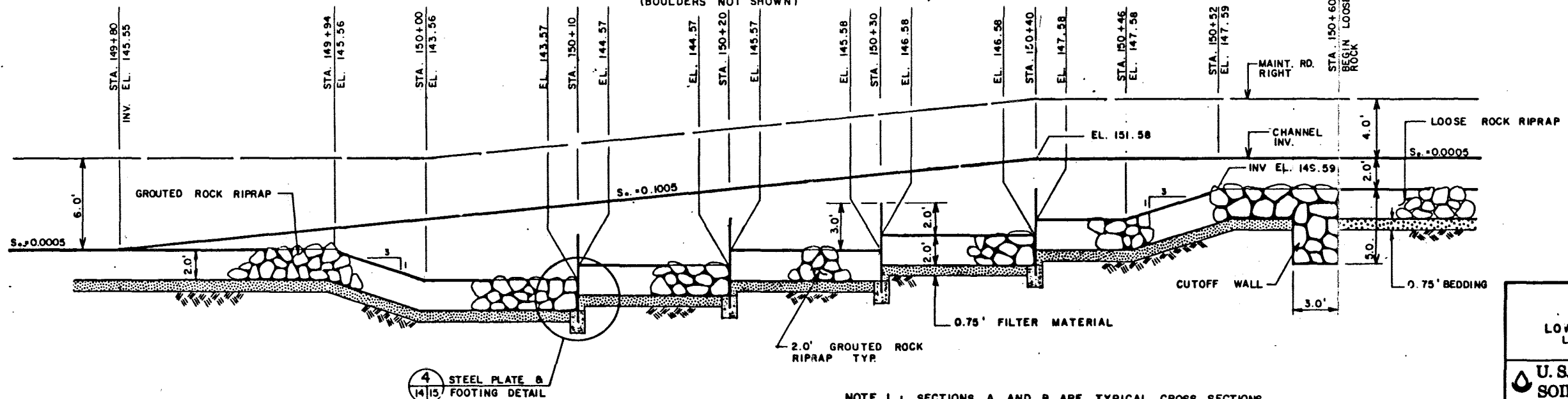
PROFILE

PROFILE			
STA. 173+80.00 TO STA. 178+00.00			
LOWER LLAGAS CREEK REACH 2B			
LOWER LLAGAS CREEK WATERSHED			
SANTA CLARA COUNTY, CALIFORNIA			
U. S. DEPARTMENT OF AGRICULTURE			
SOIL CONSERVATION SERVICE			
Designed M.E.K.		Date 7-83	
Drawn D.M.R.		Title	
Traced		Sheet No. 11	Drawing No.
Checked D.E.T.		10-83	CA-E-23910



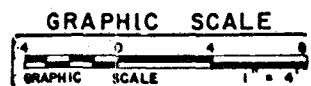


PLAN
SCALE: 1" = 4'
(BOULDERS NOT SHOWN)

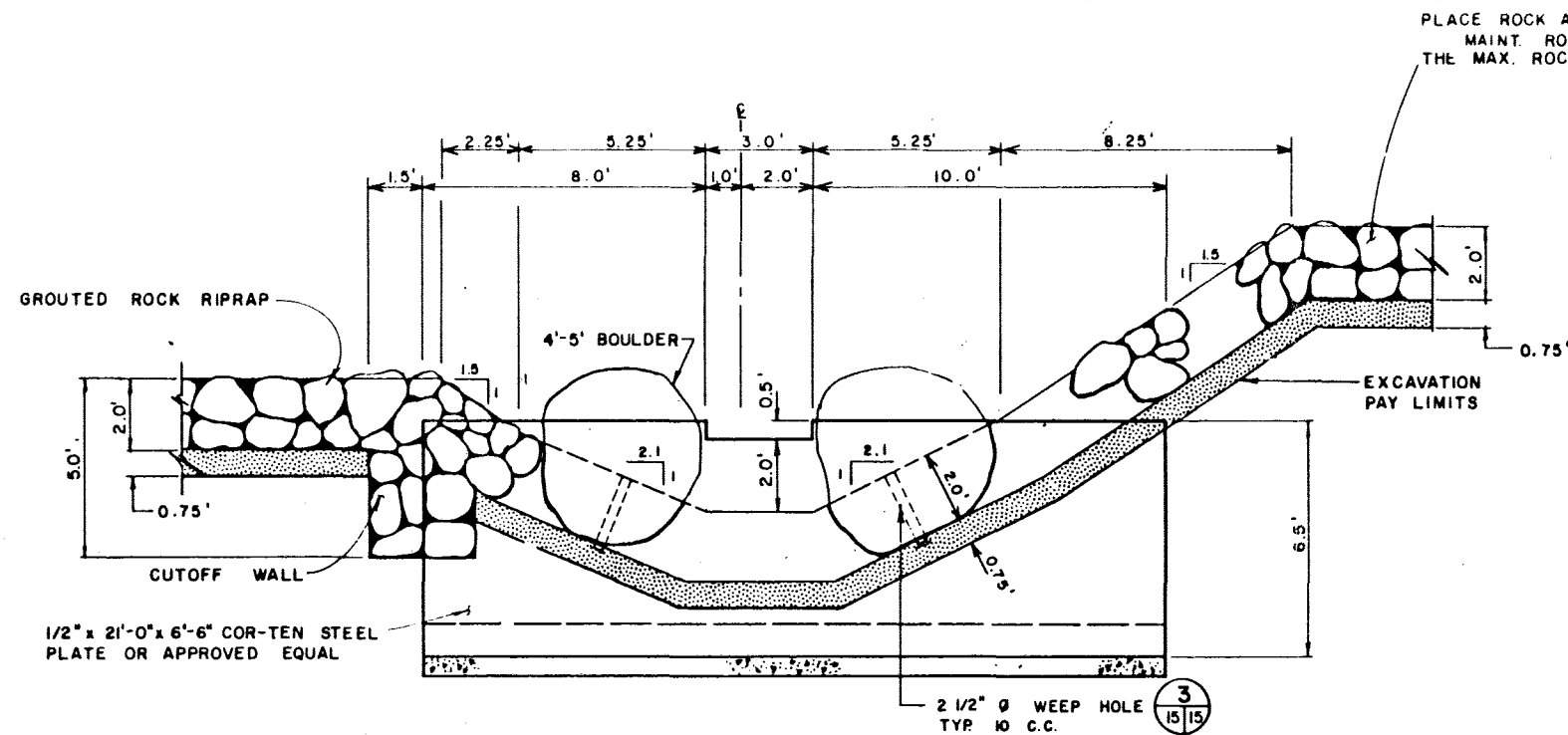


SECTION A-A
SCALE: 1" = 4'
(ALONG LOW FLOW CHANNEL)

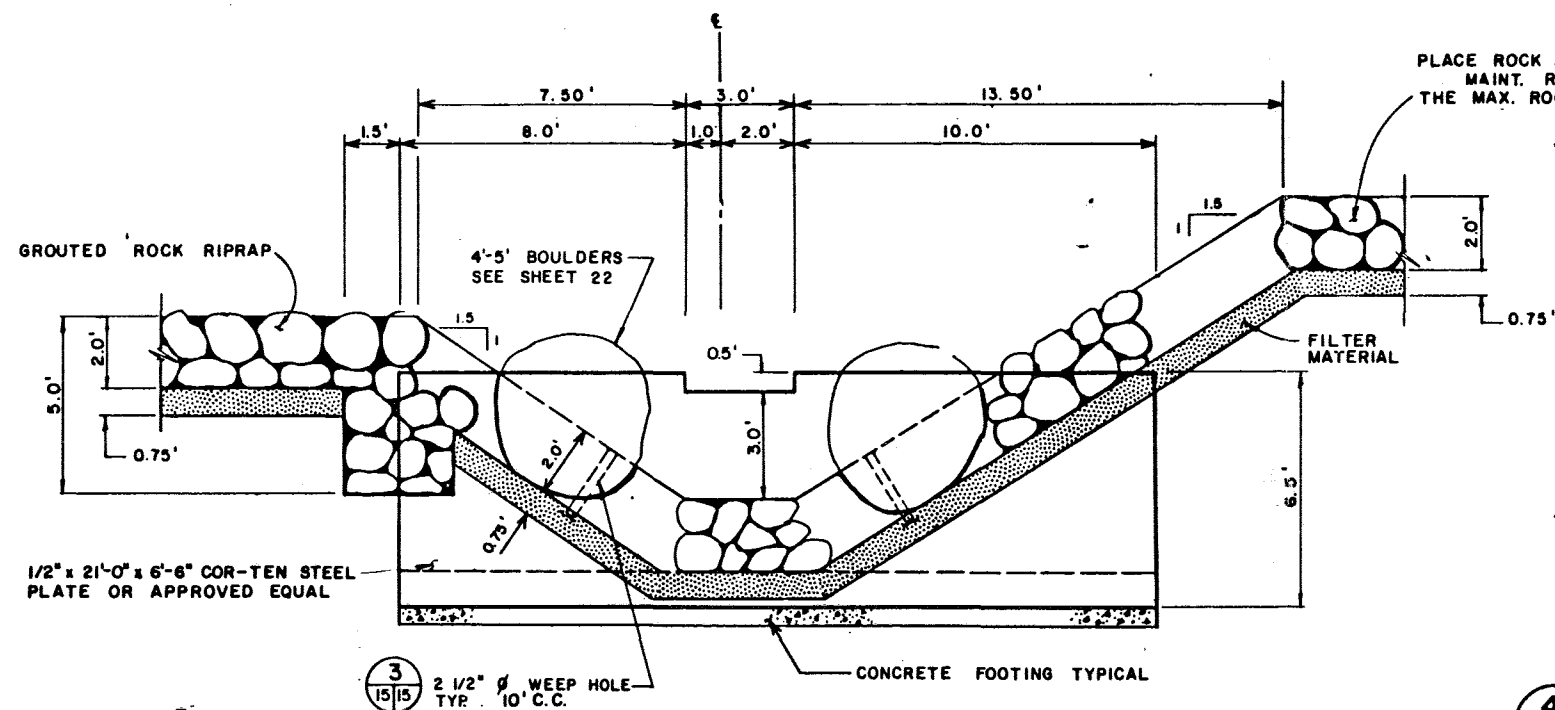
NOTE 1: SECTIONS A AND B ARE TYPICAL CROSS SECTIONS TAKEN DOWNSTREAM AND UPSTREAM OF EACH METAL PLATE IN FISH LADDER No. 1.



PLAN & PROFILE FISH LADDER NO. 1 LOWER LLAGAS CREEK REACH 2B LOWER LLAGAS CREEK WATERSHED SANTA CLARA COUNTY, CALIFORNIA			
U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE			
Designed	M.E.K.	Date	6-83
Drawn	G.E.B.	Date	6-83
Traced		Date	
Checked	D.E.T.	Date	10-83
		Sheet	14 of 34
		Drawing No.	CA-E-23910



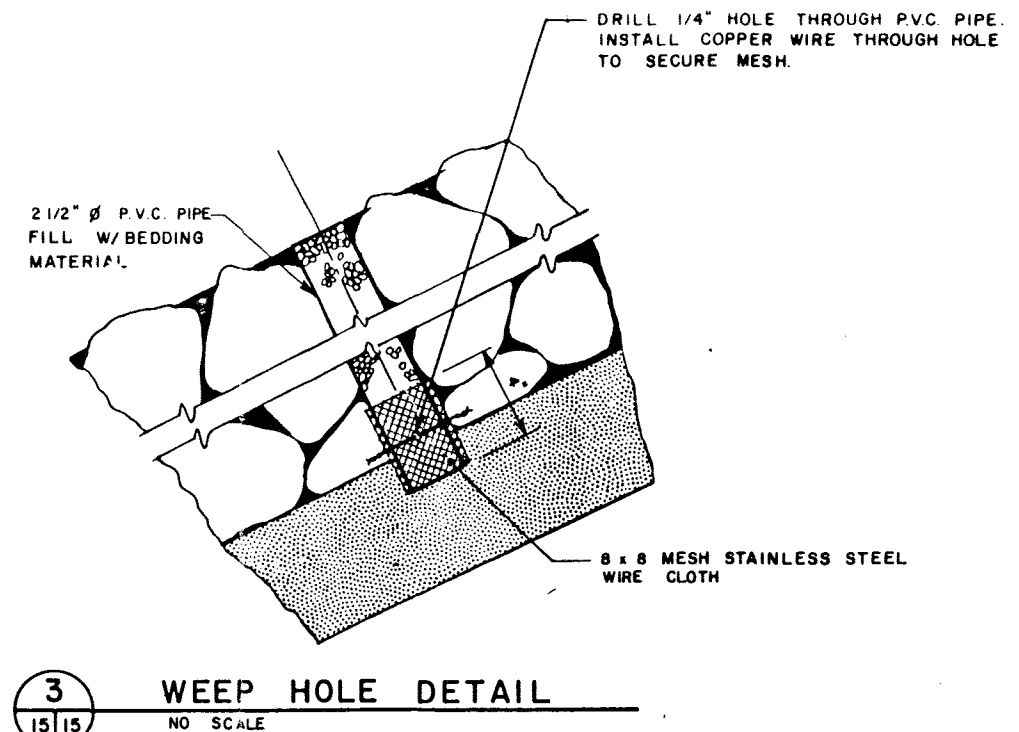
B TYPICAL SECTION
UPSTREAM OF STEEL PLATE
SCALE: 3/8" = 1'-0"



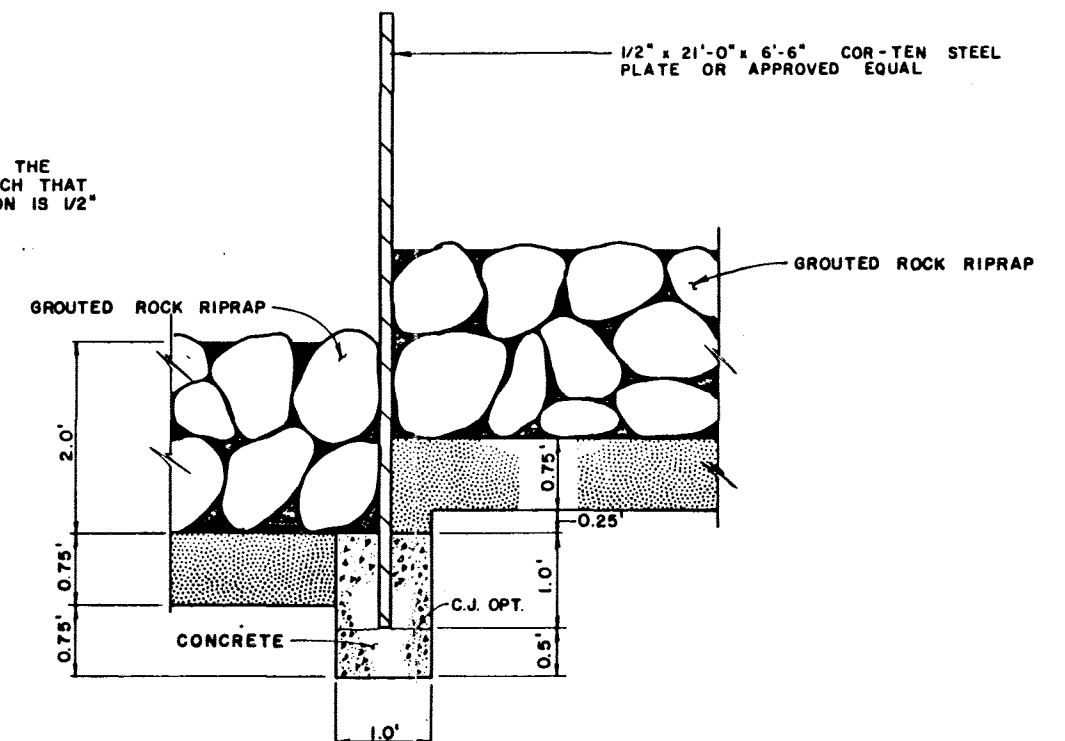
A TYPICAL SECTION
DOWNSTREAM OF STEEL PLATE
SCALE: 3/8" = 1'-0"

NOTES

- SEE SHEET 22 FOR LAYOUT OF BOULDERS UPSTREAM & DOWNSTREAM
- SEE 3 15 15 FOR WEEP HOLE DETAILS

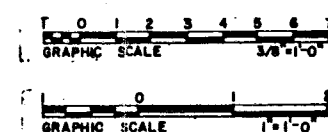


18, 21



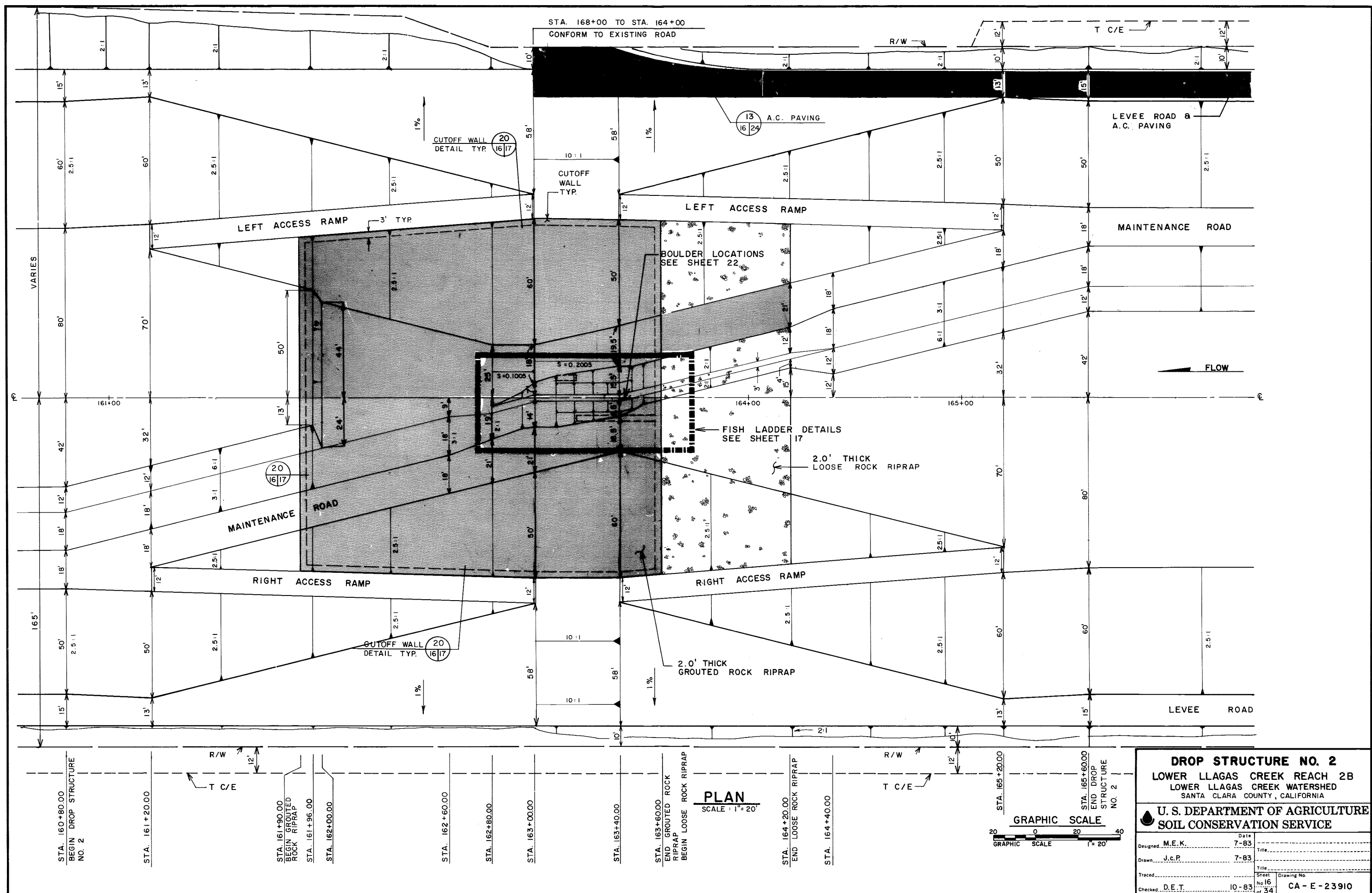
4 TYP. STEEL PLATE AND FOOTING DETAIL

GRAPHIC SCALES



TYPICAL SECTIONS & DETAILS
LOWER LLAGAS CREEK REACH 2B
LOWER LLAGAS CREEK WATERSHED
SANTA CLARA COUNTY, CALIFORNIA
U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

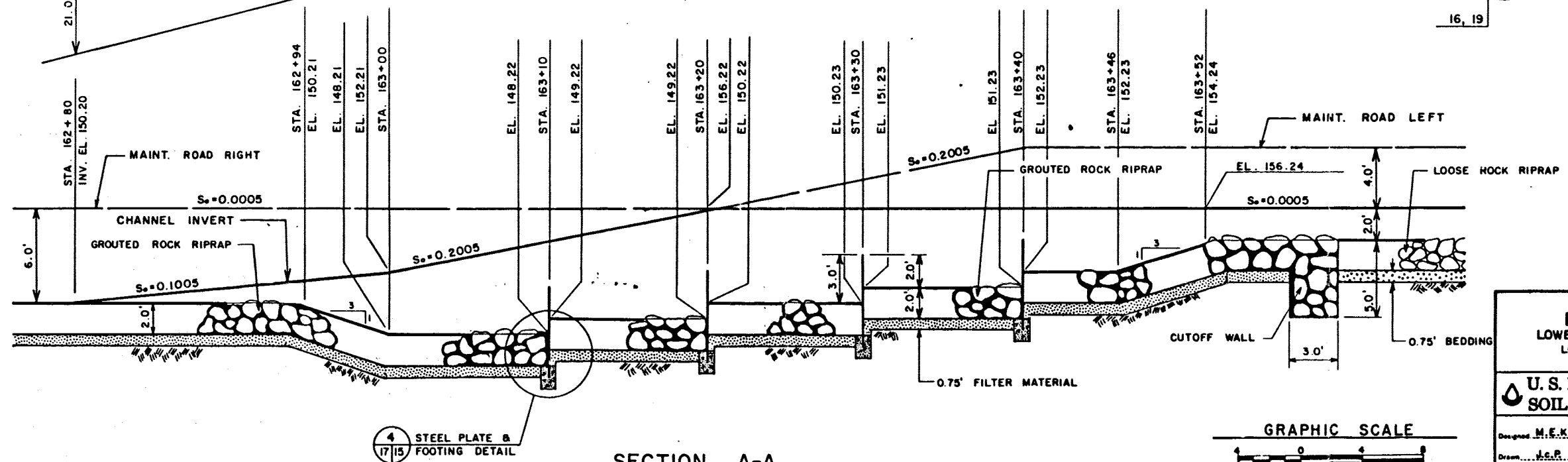
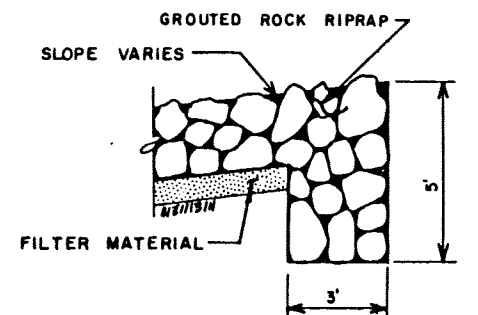
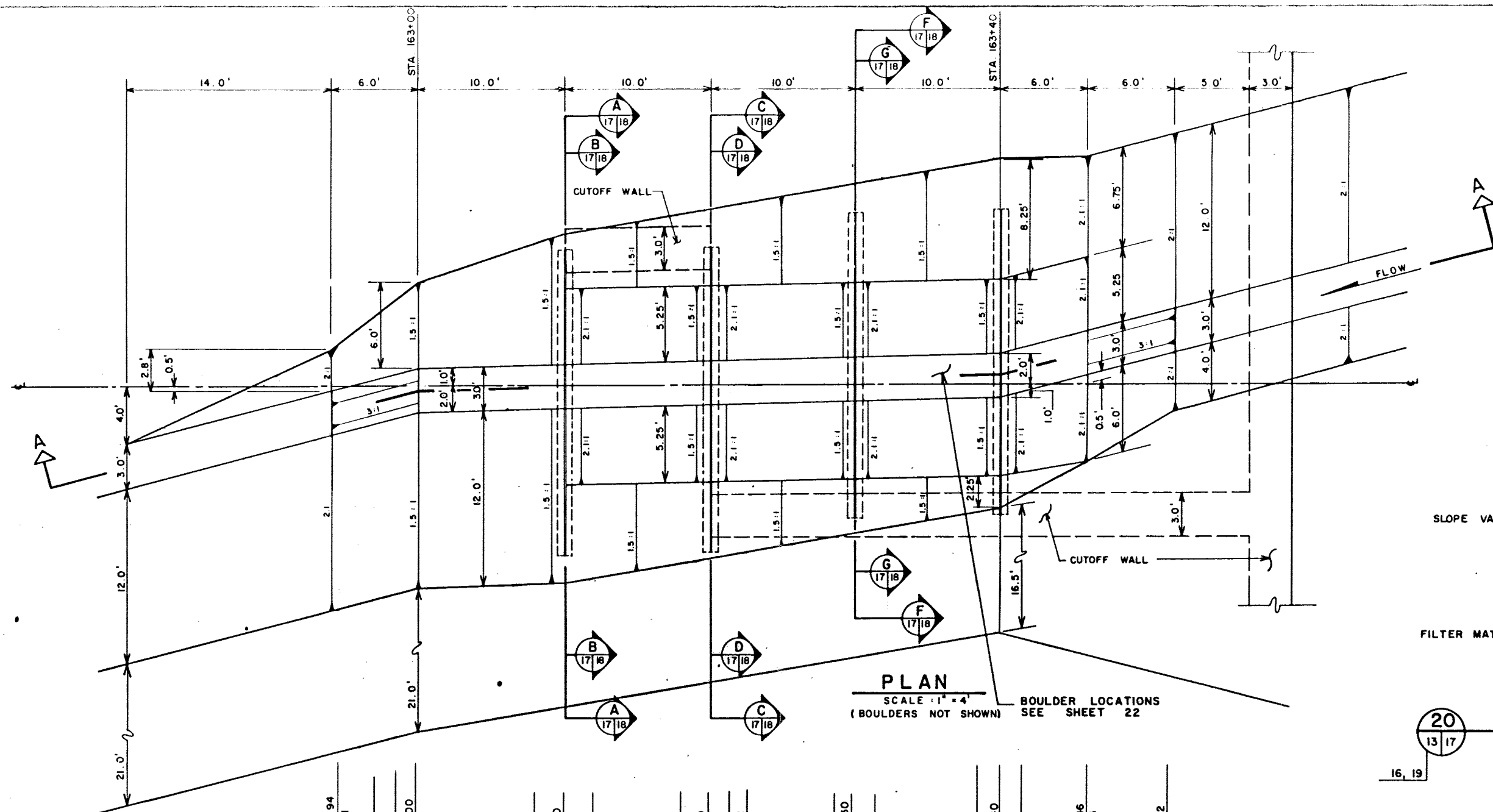
Designed: M.E.K. Date: 6-83
Drawn: G.E.B. Date: 6-83
Traced: Date: 10-93
Checked: D.E.T. Date: 10-93
Sheet No. 15 of 34
Drawing No. CA-E-23910



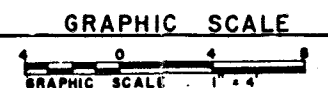
DROP STRUCTURE NO. 2
LOWER LLAGAS CREEK REACH 2B
LOWER LLAGAS CREEK WATERSHED
SANTA CLARA COUNTY, CALIFORNIA

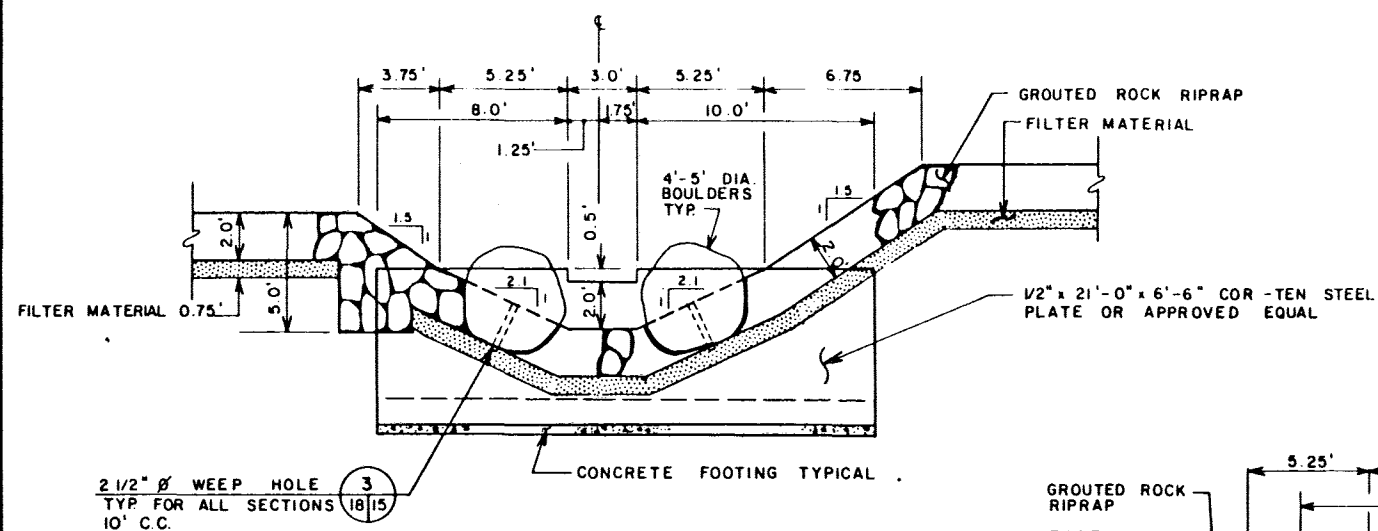
U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

Designed M.E.K.	Date 7-83	Title
Drawn J.C.P.	Date 7-83	Title
Traced	Date	Title
Checked D.E.T.	Date 10-83	Sheet No. 16 of 34
		Drawing No. CA - E - 23910

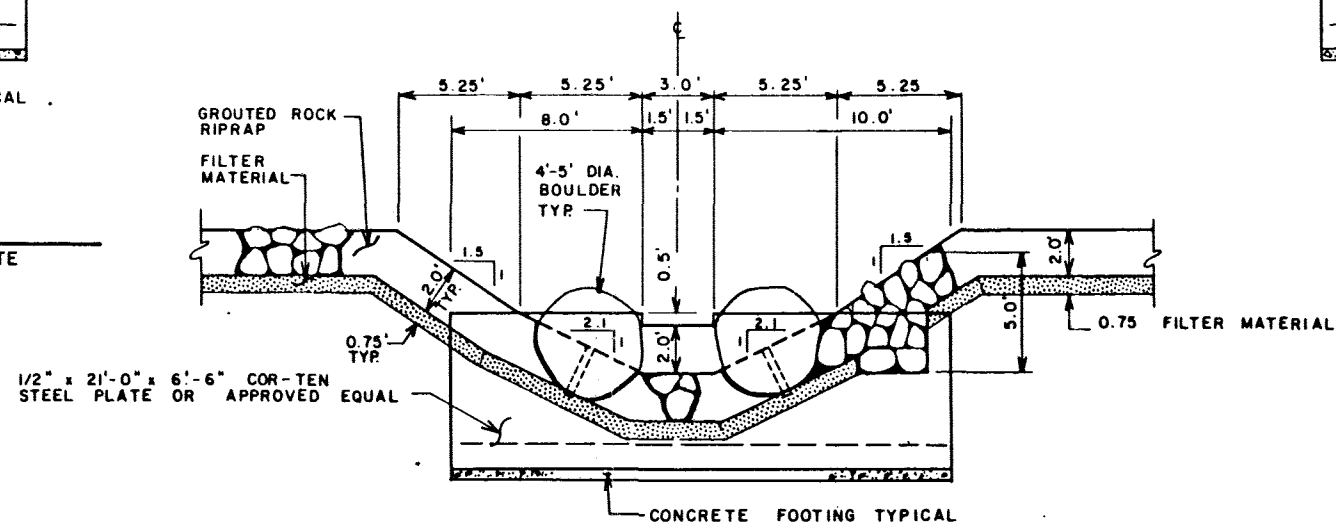


PLAN & PROFILE FISH LADDER NO. 2 LOWER LLAGAS CREEK REACH 2B LOWER LLAGAS CREEK WATERSHED SANTA CLARA COUNTY, CALIFORNIA			
U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE			
Designed M.E.K.	Date 8-83	Title	
Drawn J.C.P.	Date 8-83	Title	
Traced	Sheet 17	Drawing No.	
Checked D.E.T.	Date 10-83	CA-E- 23910	

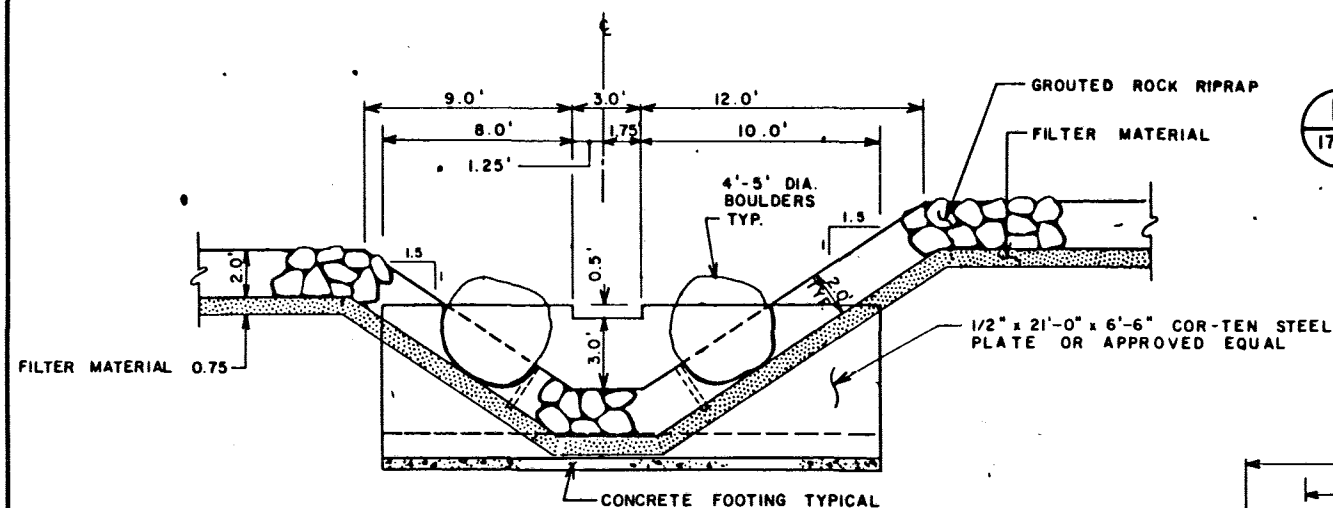




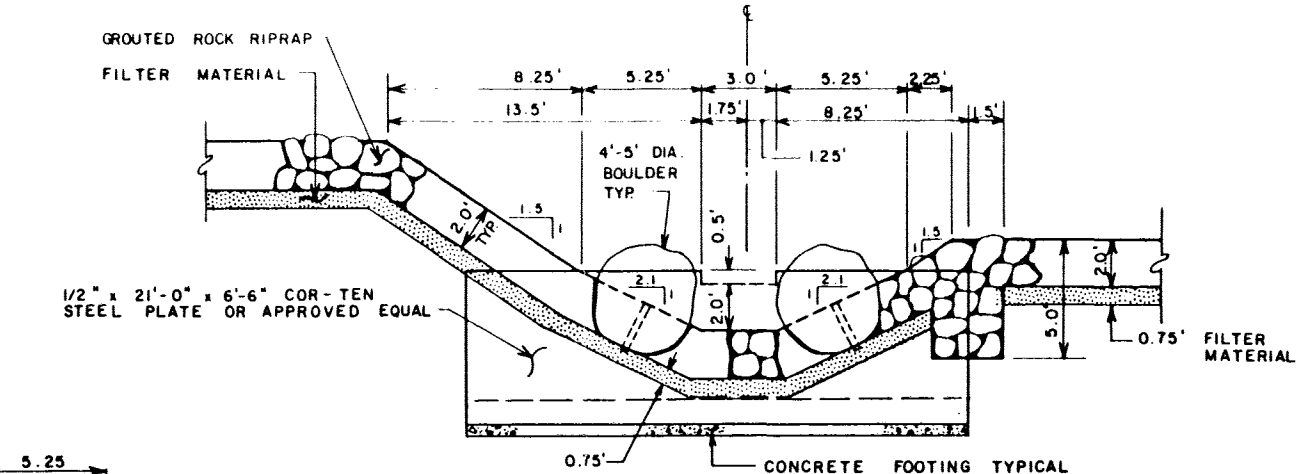
B SECTION
UPSTREAM OF STEEL PLATE
SCALE: 1" = 4'



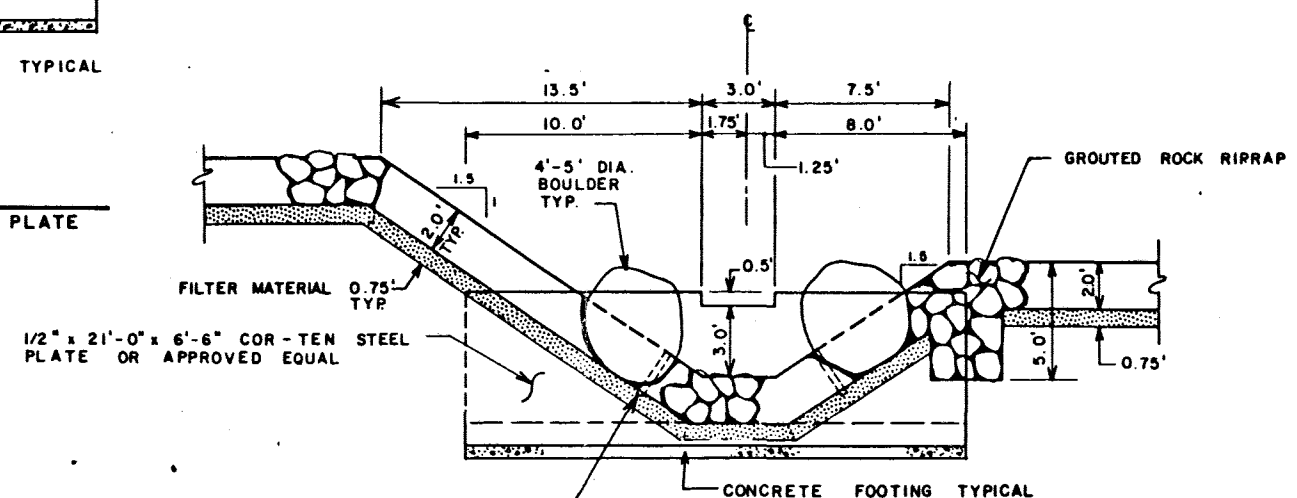
D SECTION
UPSTREAM OF STEEL PLATE
SCALE: 1" = 4'



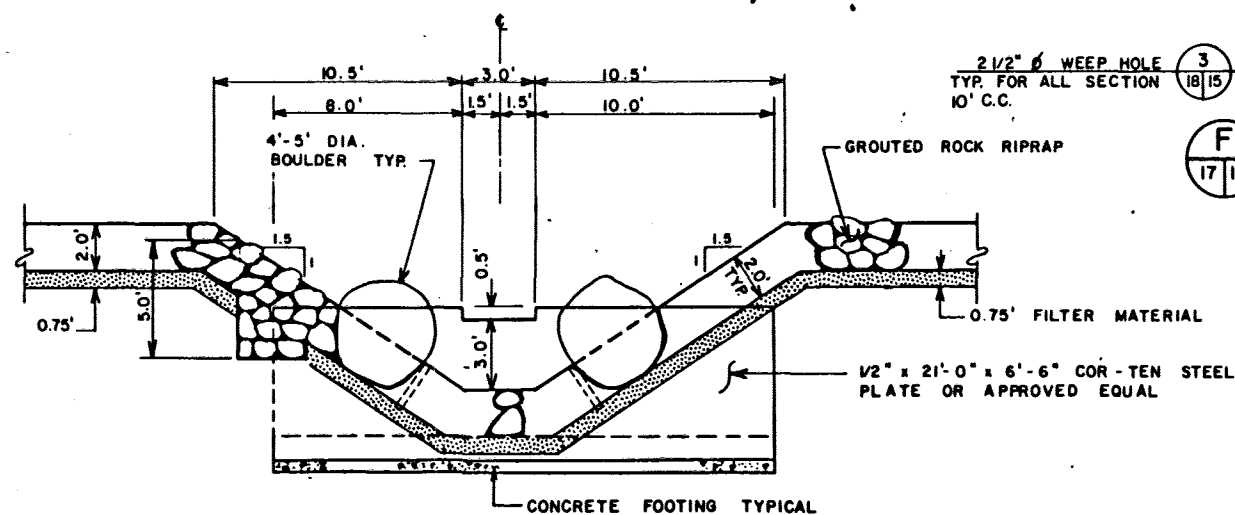
A SECTION
DOWNSTREAM OF STEEL PLATE
SCALE: 1" = 4'



G SECTION
UPSTREAM OF STEEL PLATE
SCALE: 1" = 4'



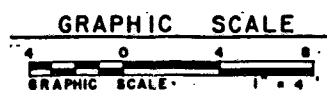
F SECTION
DOWNSTREAM OF STEEL PLATE
SCALE: 1" = 4'



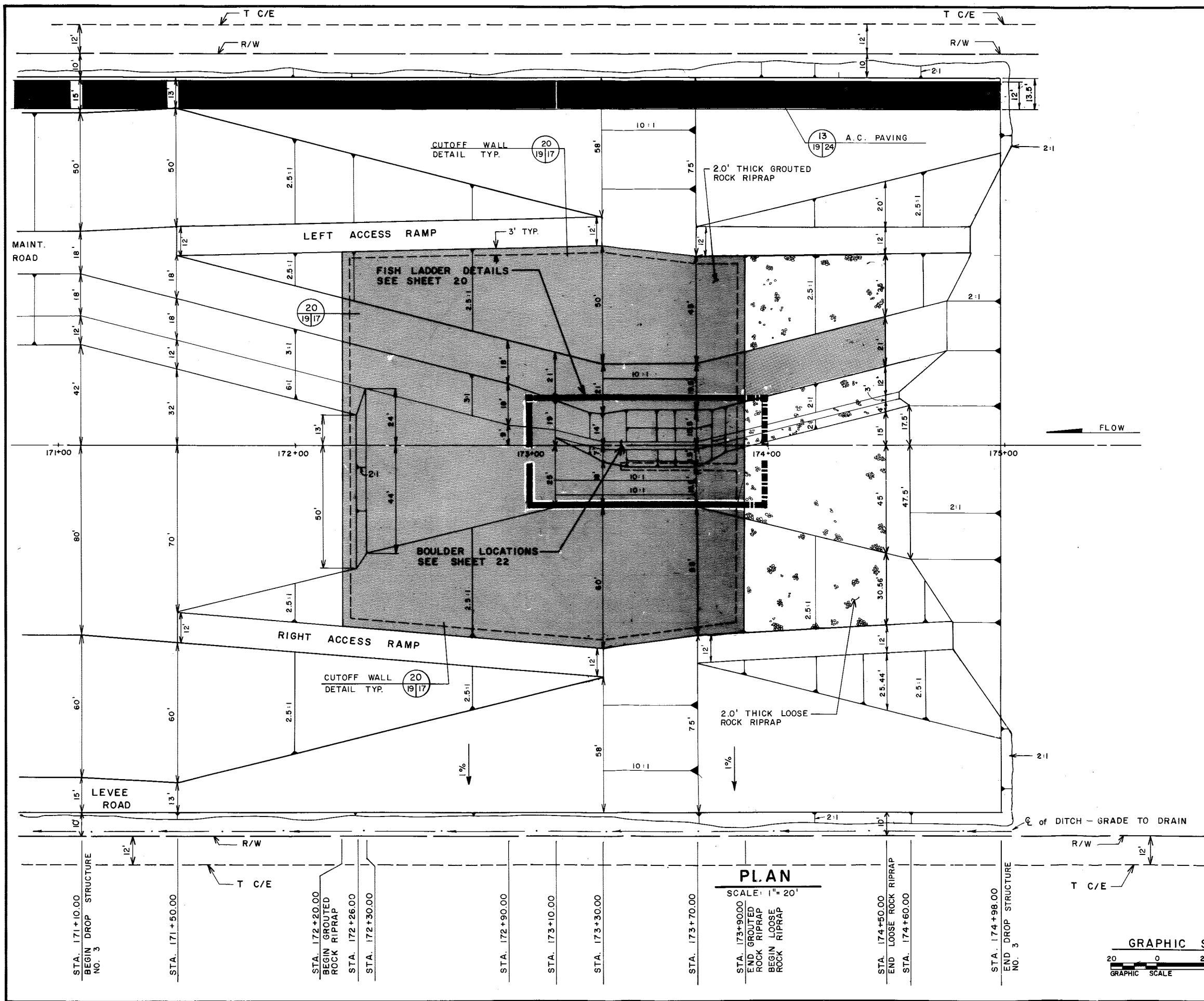
C SECTION
DOWNSTREAM OF STEEL PLATE
SCALE: 1" = 4'

NOTES

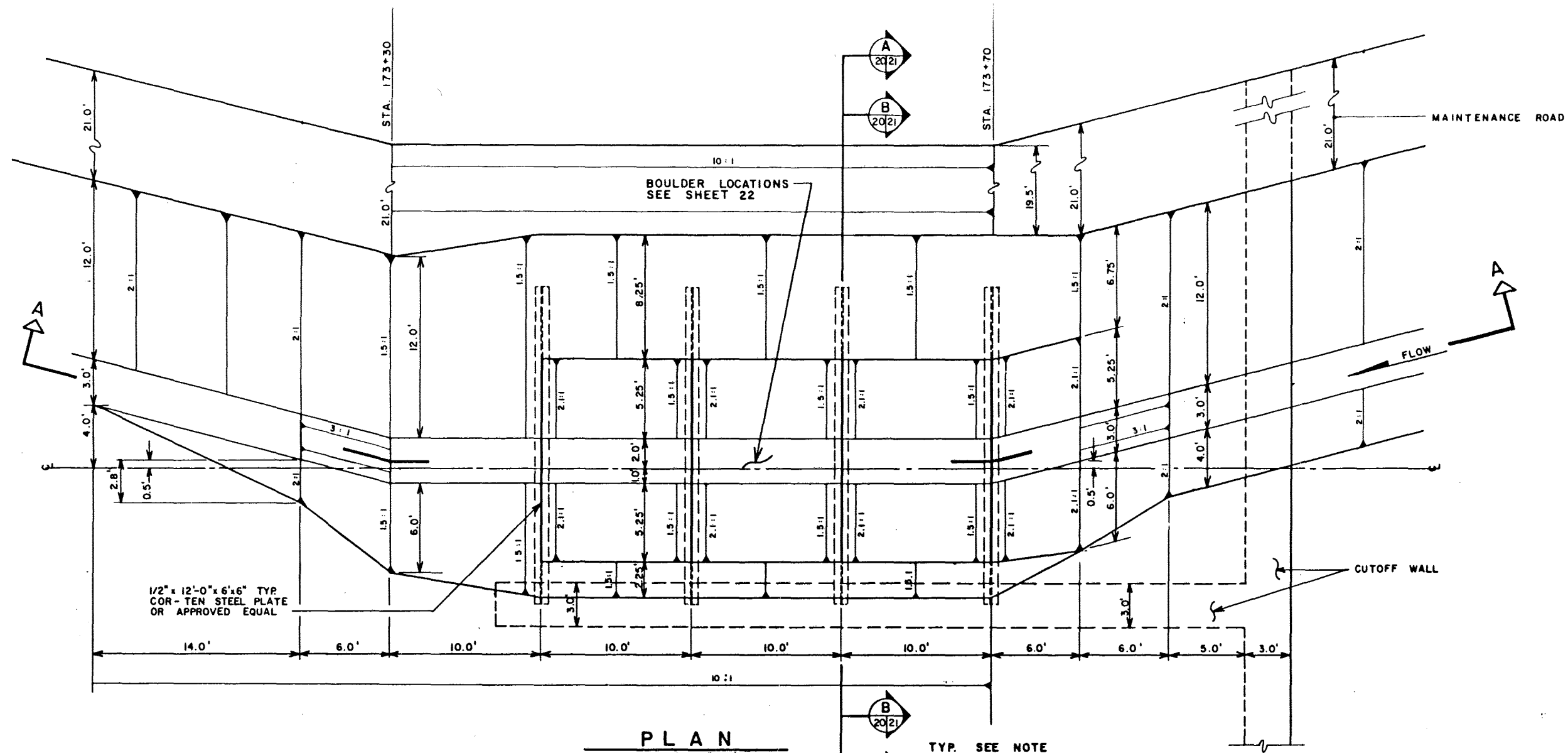
- SEE SHEET 22 FOR LAYOUT OF BOULDERS UPSTREAM & DOWNSTREAM
- SEE **3** FOR WEEP HOLE DETAILS



SECTIONS LOWER LLAGAS CREEK REACH 2B LOWER LLAGAS CREEK WATERSHED SANTA CLARA COUNTY, CALIFORNIA			
U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE			
Designed	M.E.K.	8-83	Date
Drawn	G.E.B.	8-83	Title
Traced			Sheet
Checked	D.E.T.	10-83	Drawing No.
			CA-E-23910



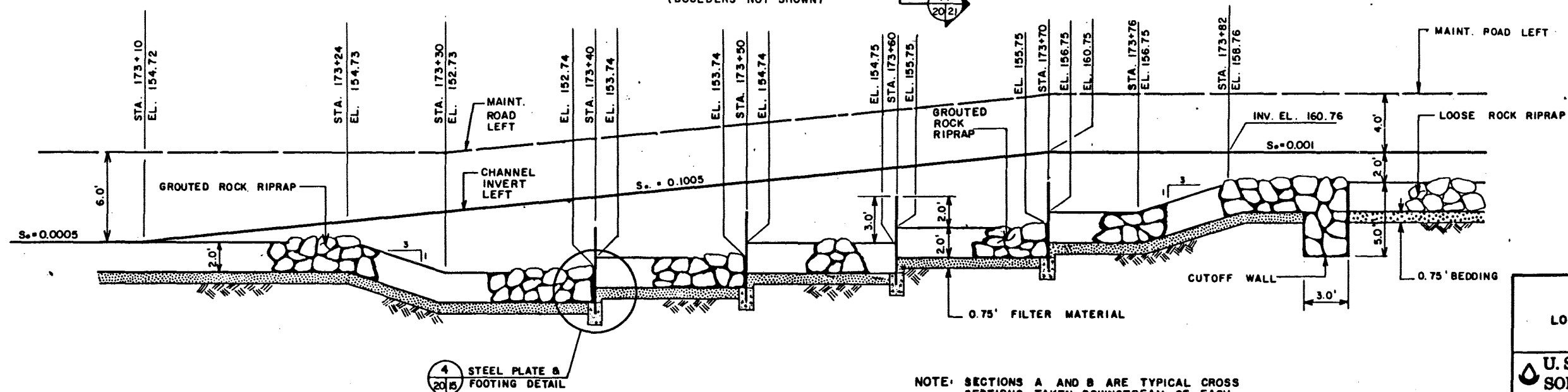
DROP STRUCTURE NO. 3			
LOWER LLAGAS CREEK REACH 2B			
LOWER LLAGAS CREEK WATERSHED			
SANTA CLARA COUNTY, CALIFORNIA			
U. S. DEPARTMENT OF AGRICULTURE			
SOIL CONSERVATION SERVICE			
Designed M.E.K.	Date 7-83	Title	
Drawn G.E.B.	Date 7-83	Title	
Traced	Sheet 19	Drawing No.	
Checked D.E.T.	Date 10-83	No 34	
CA - E - 23910			



PLAN

SCALE: 1" = 4'
(BOULDERS NOT SHOWN)

TYP. SEE NOTE



SECTION A-A

SCALE: 1" = 4'
(ALONG LOW FLOW CHANNEL)

NOTE: SECTIONS A AND B ARE TYPICAL CROSS SECTIONS TAKEN DOWNSTREAM OF EACH METAL PLATE IN FISH LADDER NO. 3.

GRAPHIC SCALE

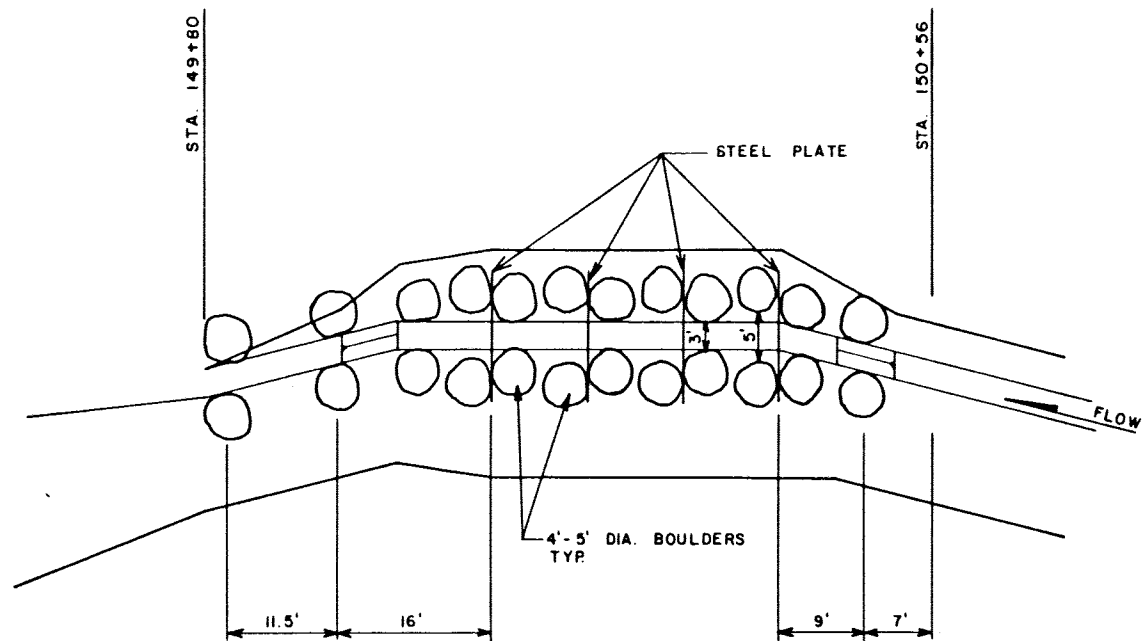


PLAN & PROFILE
FISH LADDER NO. 3
LOWER LLAGAS CREEK REACH 2B
LOWER LLAGAS CREEK WATERSHED
SANTA CLARA COUNTY, CALIFORNIA

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

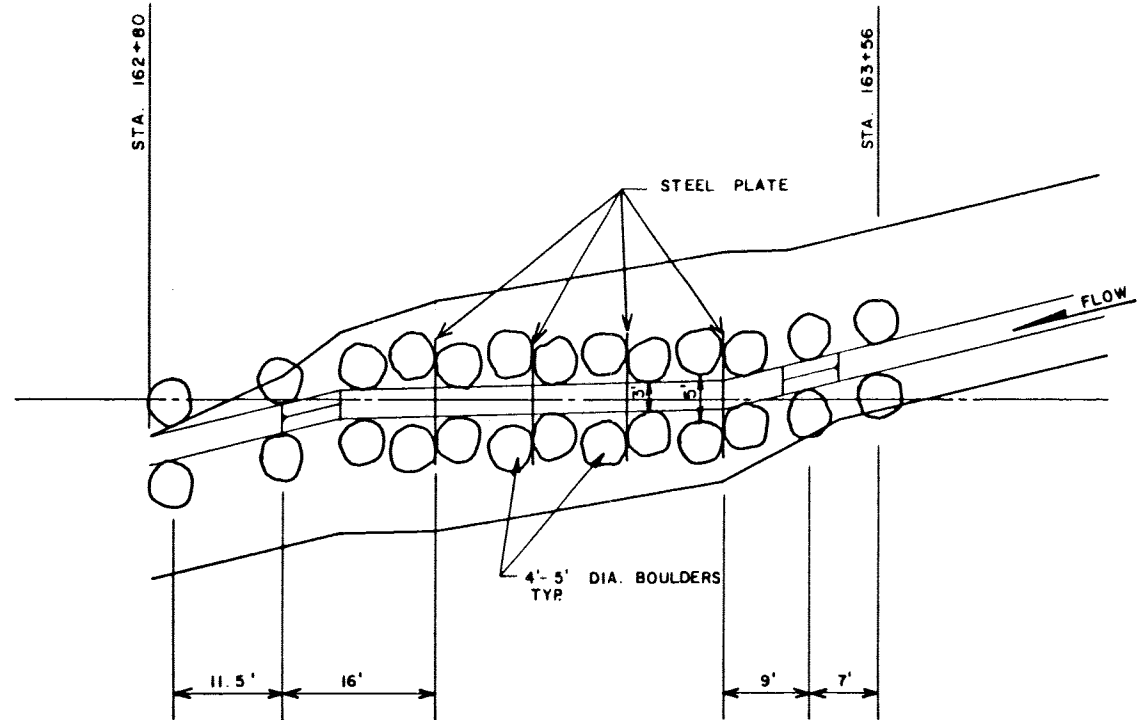
Designed	M. E. K.	Date	8-83
Drawn	G. E. B.	Title	8-83
Traced		Sheet	No. 20
Checked	D. E. T.	Drawing No.	CA-E-23910

Date		_____	
Designated	M.F.K.	7-83	Title _____
Drawn	J.C.P.	7-83	Title _____
Traced	_____	_____	_____
Checked	D.E.T.	10-83	Sheet No. 21
		Drawing No. CA-E-23910	



FISH LADDER NO. 1

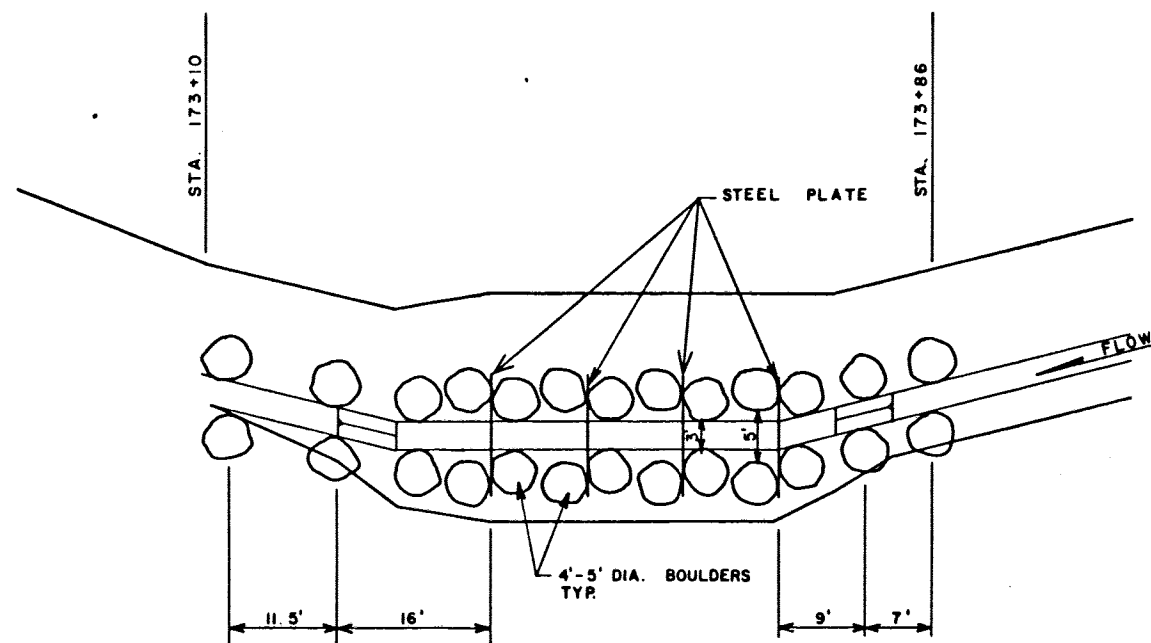
SCALE: 1" = 10'



FISH LADDER NO. 2

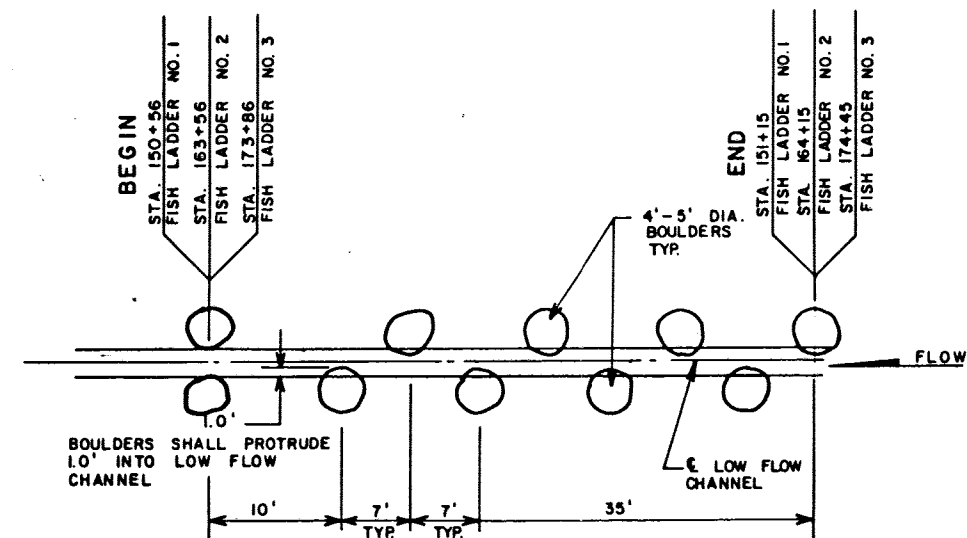
SCALE: 1" = 10'

NOTE: WITHIN THE FISHLADDER BOULDER SEPARATION SHALL BE 3.0' UPSTREAM OF STEEL PLATE AND 5.0' DOWNSTREAM OF STEEL PLATE.



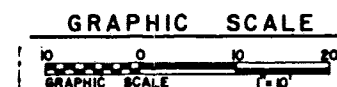
FISH LADDER NO. 3

SCALE: 1" = 10'

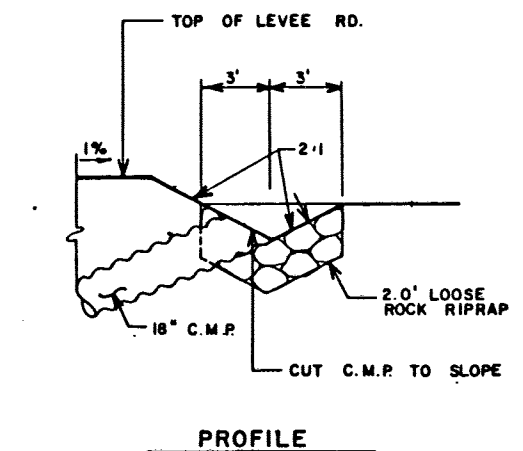
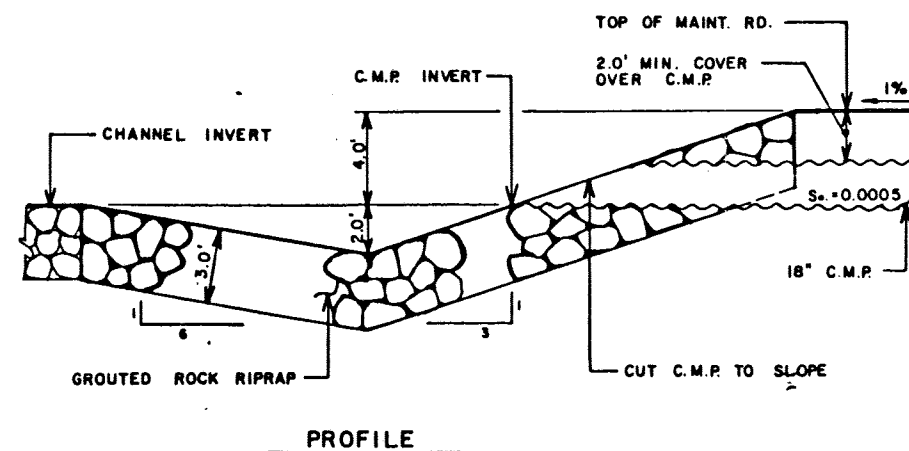
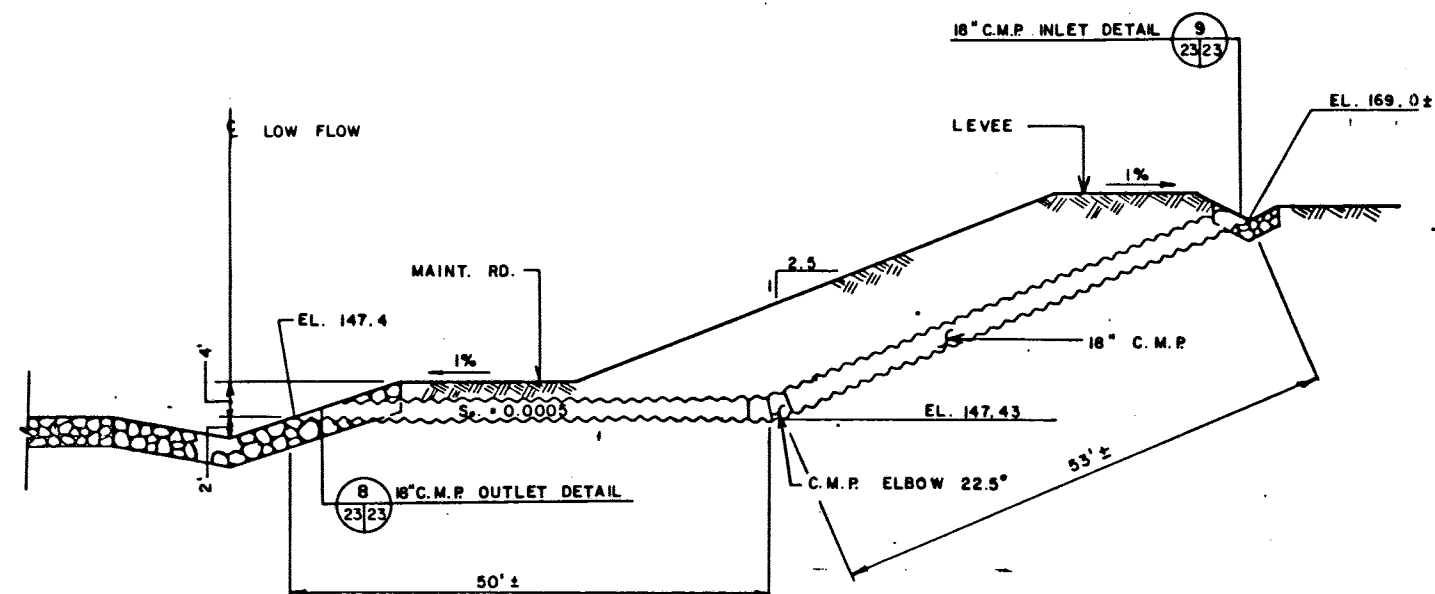
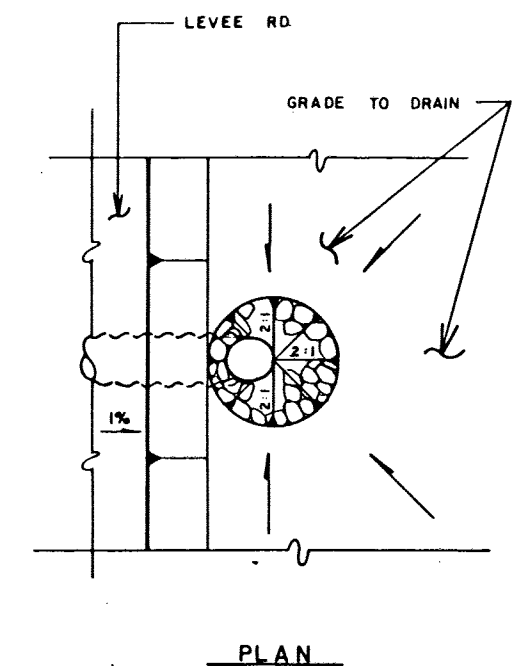
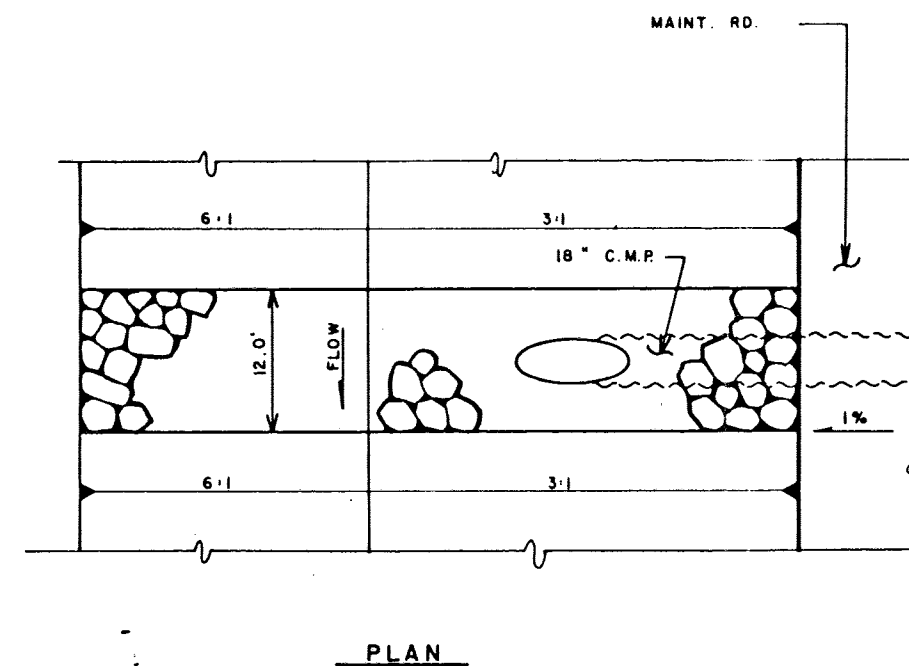
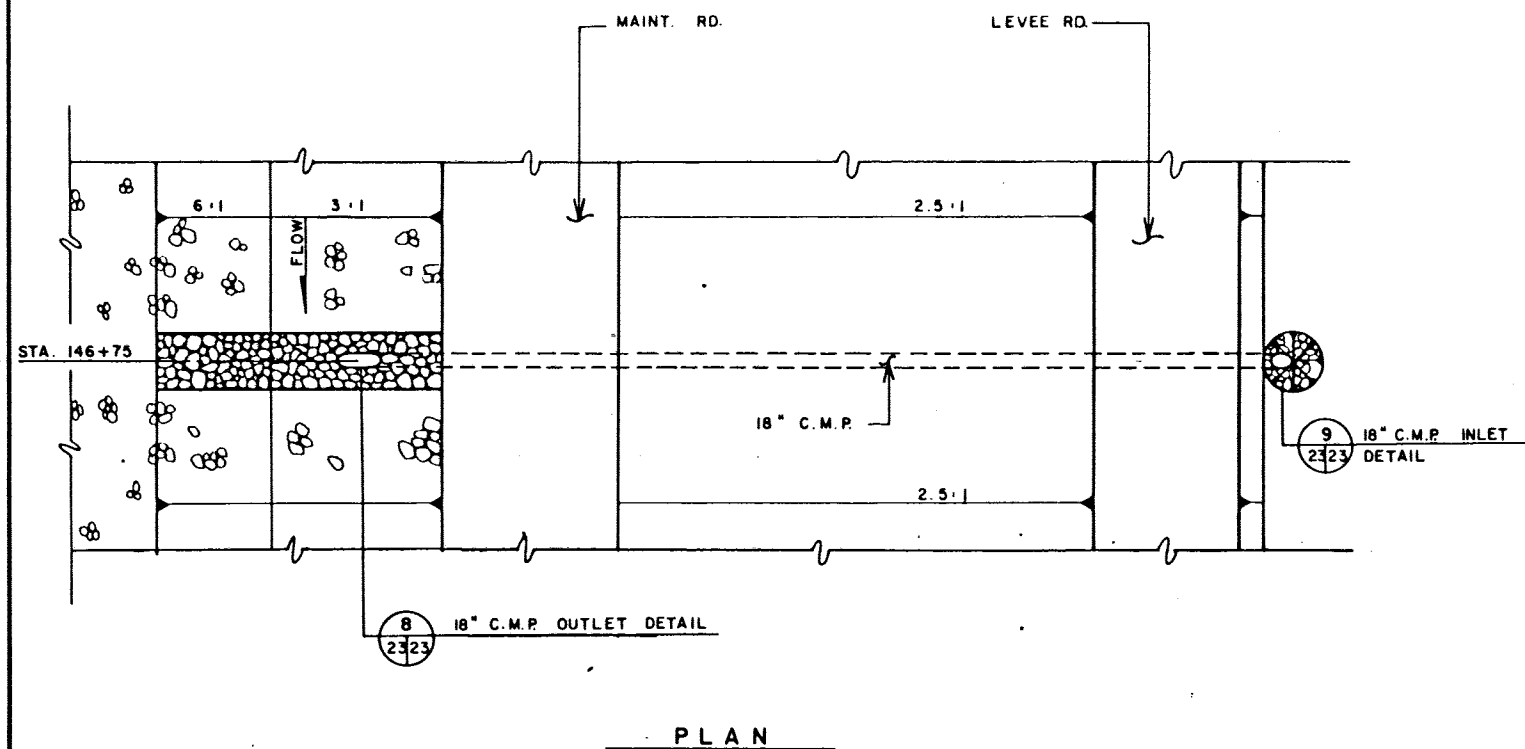


TYP. BOULDER LAYOUT

SCALE: 1" = 10'



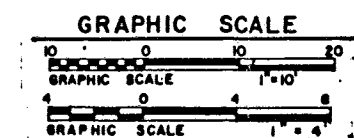
BOULDER LOCATIONS			
LOWER LLAGAS CREEK REACH 2B			
LOWER LLAGAS CREEK WATERSHED			
SANTA CLARA COUNTY, CALIFORNIA			
U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE			
Designed: M.E.K.	Date: 8-83	Title: _____	
Drawn: G.E.B.	Date: 8-83	Sheet: _____	
Traced: _____	Date: _____	Drawing No: _____	
Checked: D.E.T.	Date: 10-83	Sheet No. 22 of 54	
		CA-E-23910	



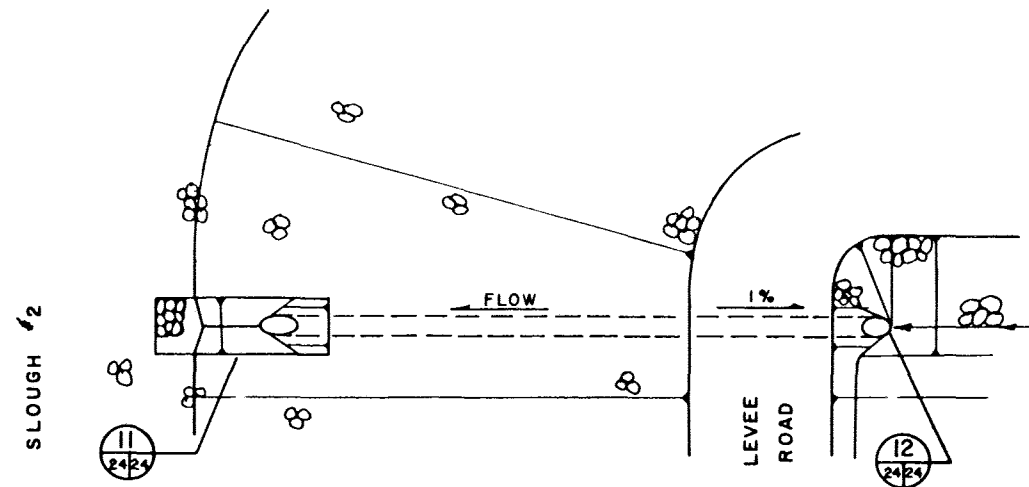
7 18" C.M.P. DETAILS
SCALE 1" = 10'

8 18" C.M.P. OUTLET DETAIL
SCALE 1" = 4'

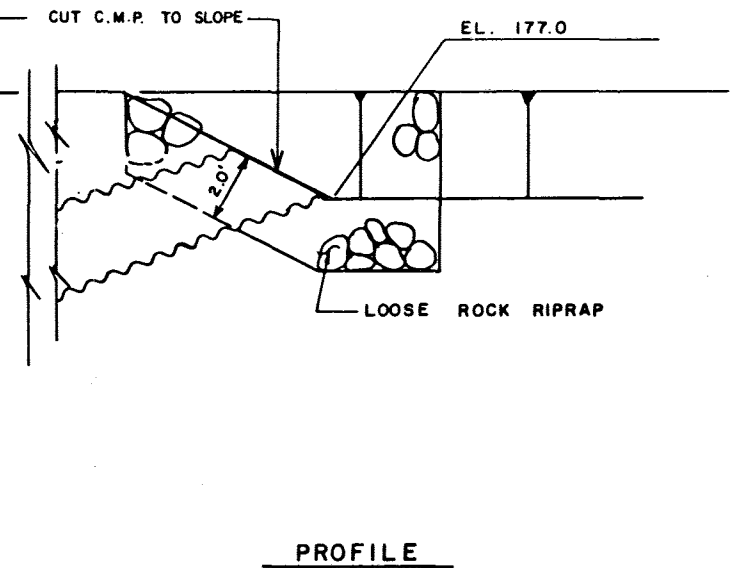
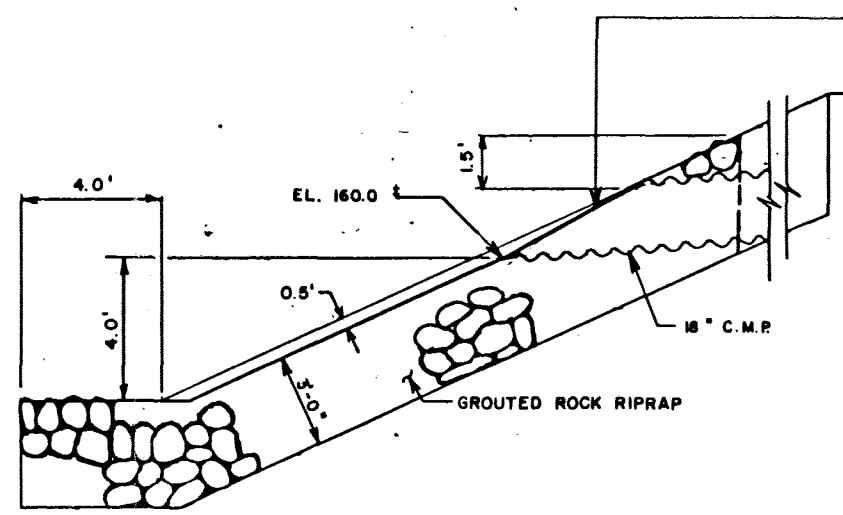
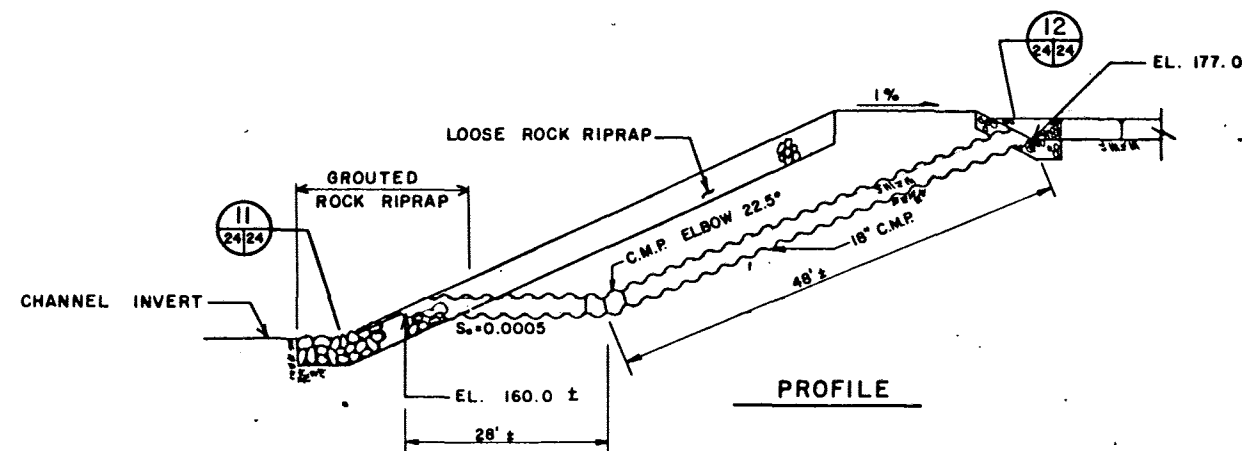
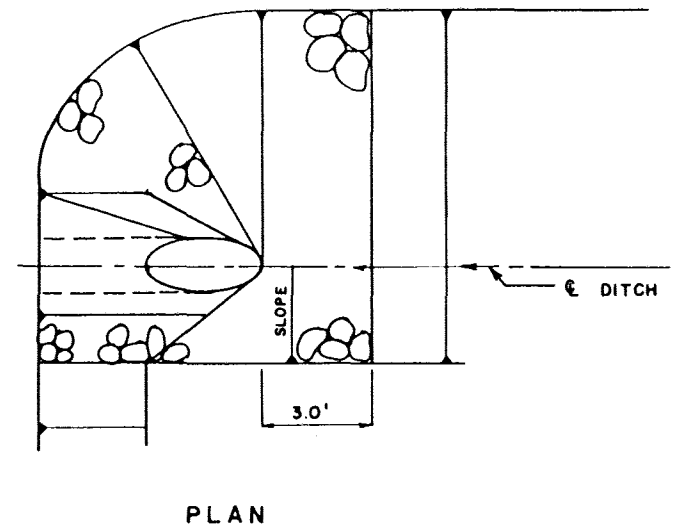
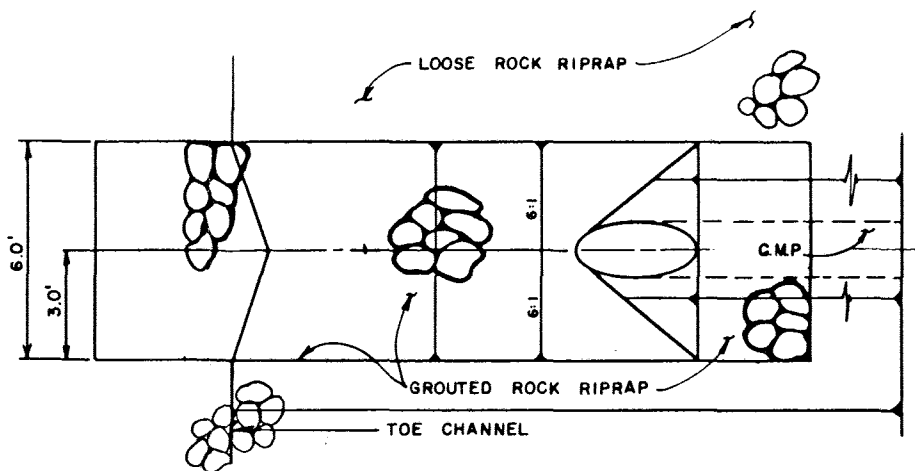
9 18" C.M.P. INLET DETAIL
SCALE 1" = 4'



18 INCH C.M.P. DETAILS			
LOWER LLAGAS CREEK REACH 2B			
LOWER LLAGAS CREEK WATERSHED			
SANTA CLARA COUNTY, CALIFORNIA			
U. S. DEPARTMENT OF AGRICULTURE			
SOIL CONSERVATION SERVICE			
Designed	M. E. K.	Date	10-83
Drawn	G. E. B.	Date	10-83
Traced		Date	
Checked	D. E. T.	Date	10-83
		Sheet	23
		Drawing No.	CA-E-23910

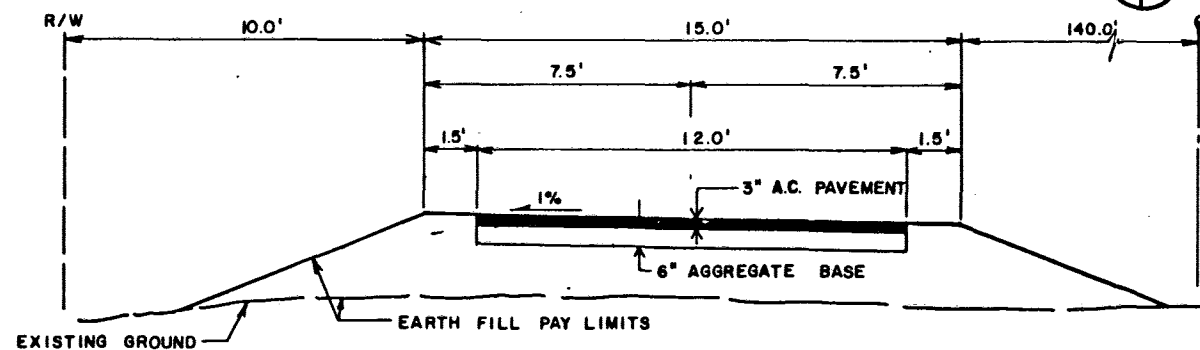


10 18" C.M.P. DETAIL
SCALE: 1"=10'



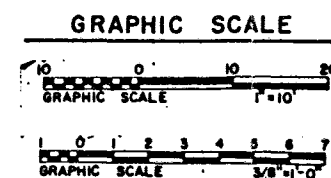
11 18" C.M.P. OUTLET DETAIL
SCALE: 3/8"=1'-0"

12 18" C.M.P. INLET DETAIL
SCALE: 3/8"=1'-0"

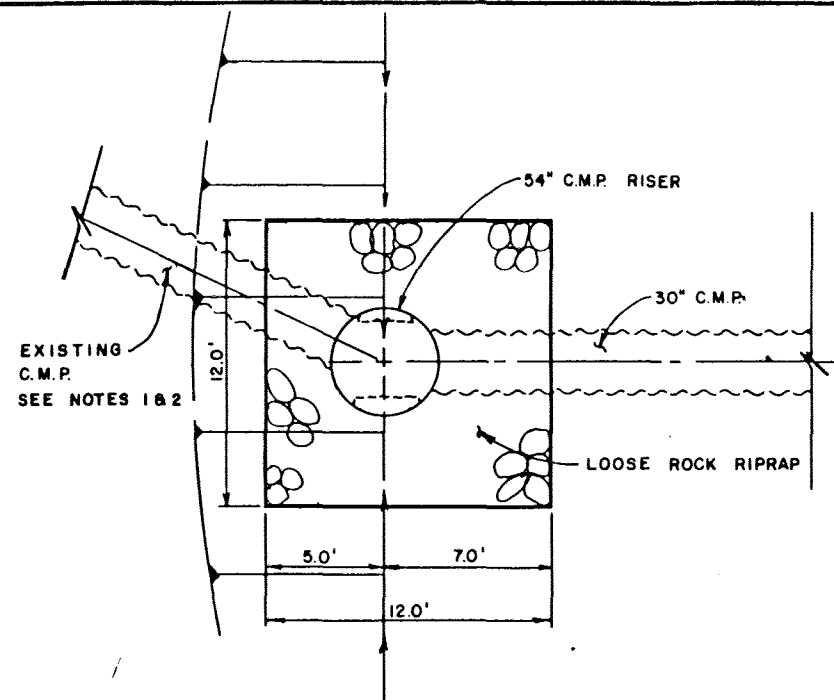


13 A.C. PAVING DETAIL
SCALE: 3/8"=1'-0"

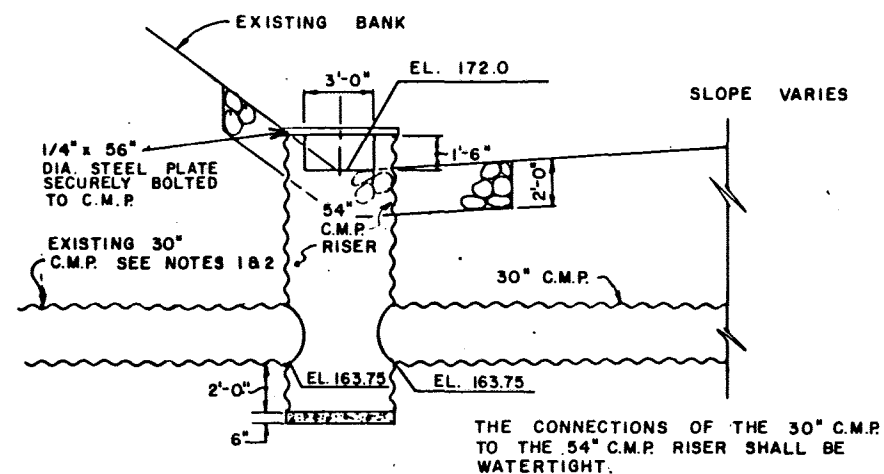
8, 12, 16, 19



18 INCH C.M.P. DETAILS & A.C. PAVING DETAIL LOWER LLAGAS CREEK REACH 2B LOWER LLAGAS CREEK WATERSHED SANTA CLARA COUNTY, CALIFORNIA			
U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE			
Designed	M.E.K.	Date	8-85
Drawn	D.M.R.	Date	8-85
Traced		Date	
Checked	D.E.T.	Date	10-85
Sheet No. 24		Drawing No. CA-E-23910	



PLAN

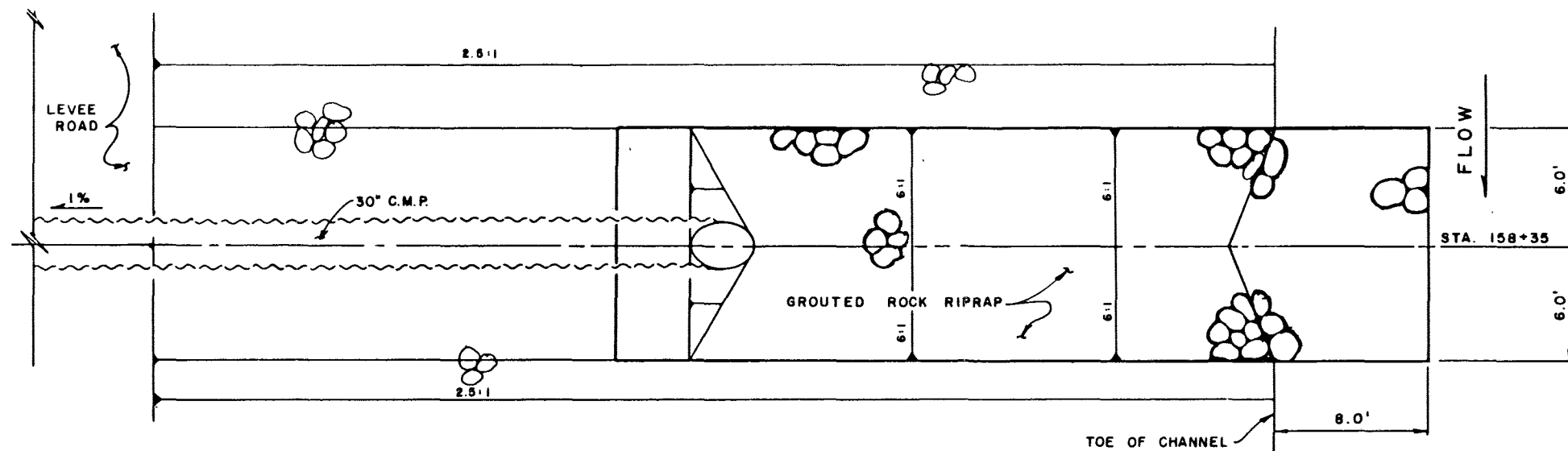


PROFILE

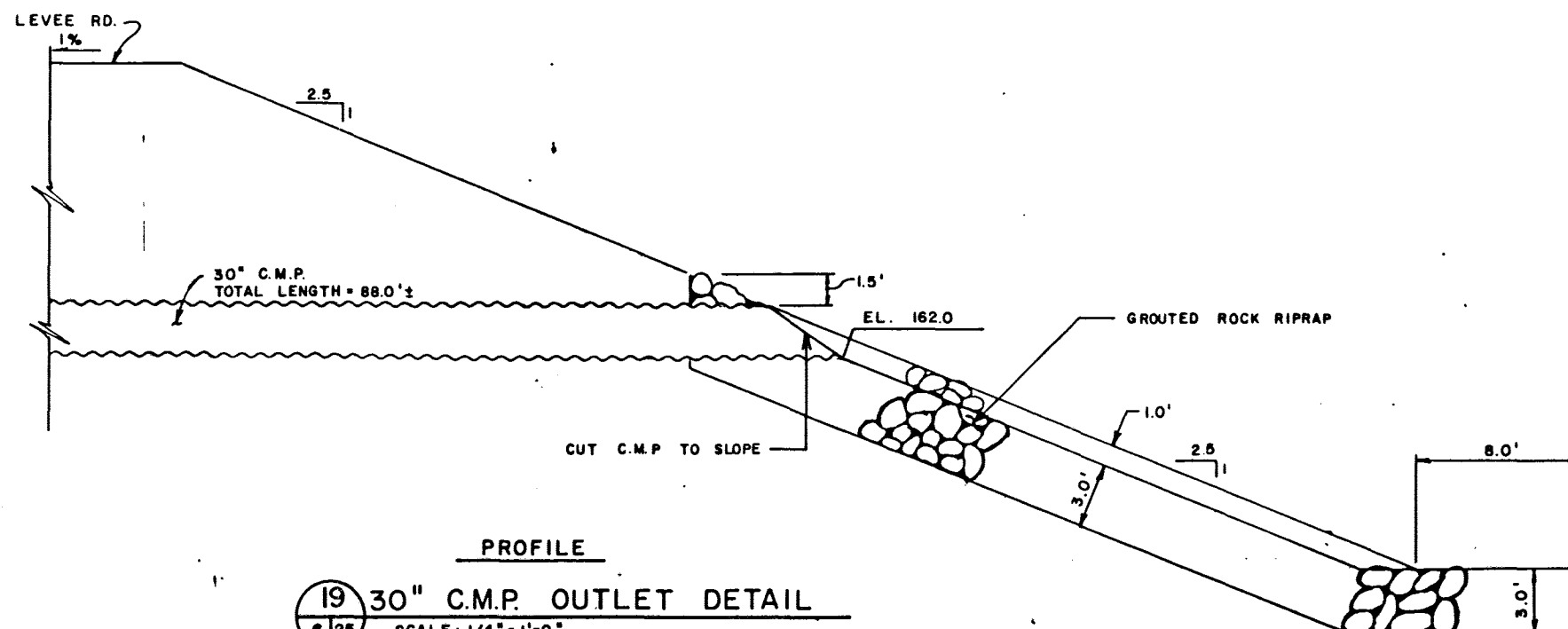
18 30" C.M.P. INLET DETAIL
6/25 SCALE: 1/4" = 1'-0"

NOTE 1: EXTEND OR TRIM EXISTING 30" C.M.P. TO MATCH 54" RISER LOCATION

NOTE 2: EXISTING 30" C.M.P. HORIZONTAL AND VERTICAL ANGLES SHALL BE DETERMINED IN THE FIELD PRIOR TO SHOP FABRICATION.



PLAN



PROFILE

19 30" C.M.P. OUTLET DETAIL
6/25 SCALE: 1/4" = 1'-0"

GRAPHIC SCALE

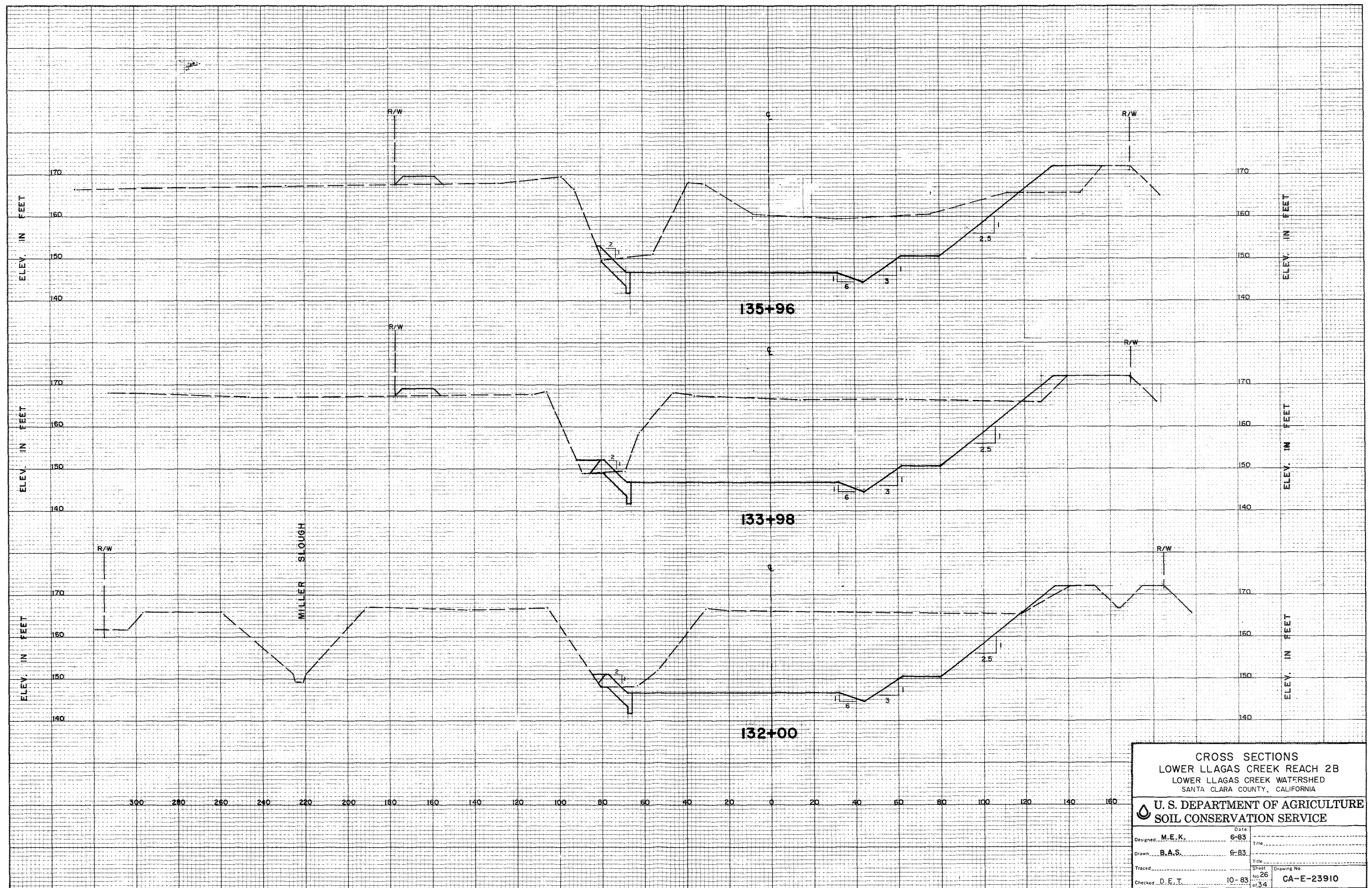


30 INCH C.M.P. DETAILS

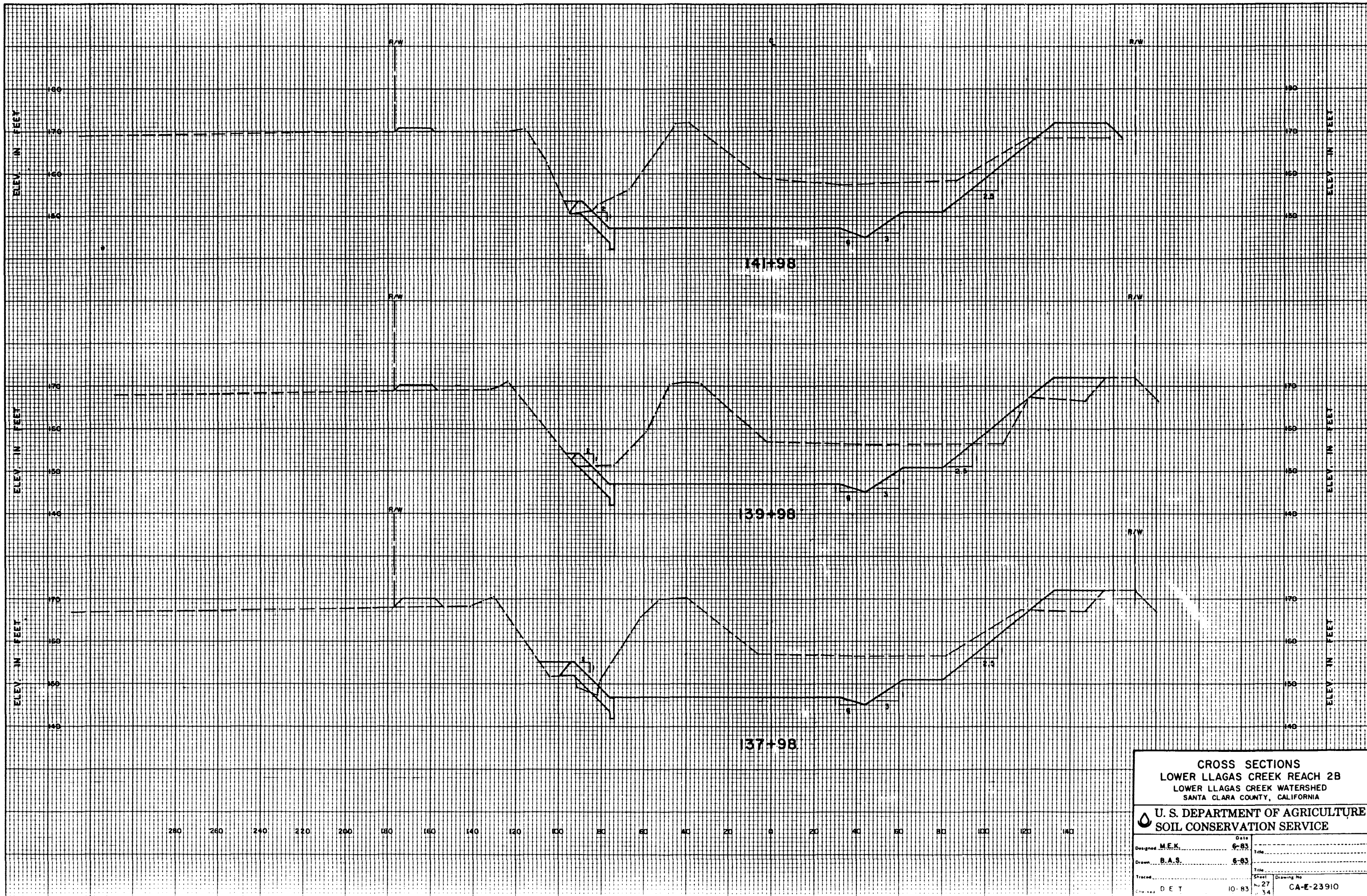
LOWER LLAGAS CREEK REACH 2B
LOWER LLAGAS CREEK WATERSHED
SANTA CLARA COUNTY, CALIFORNIA

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

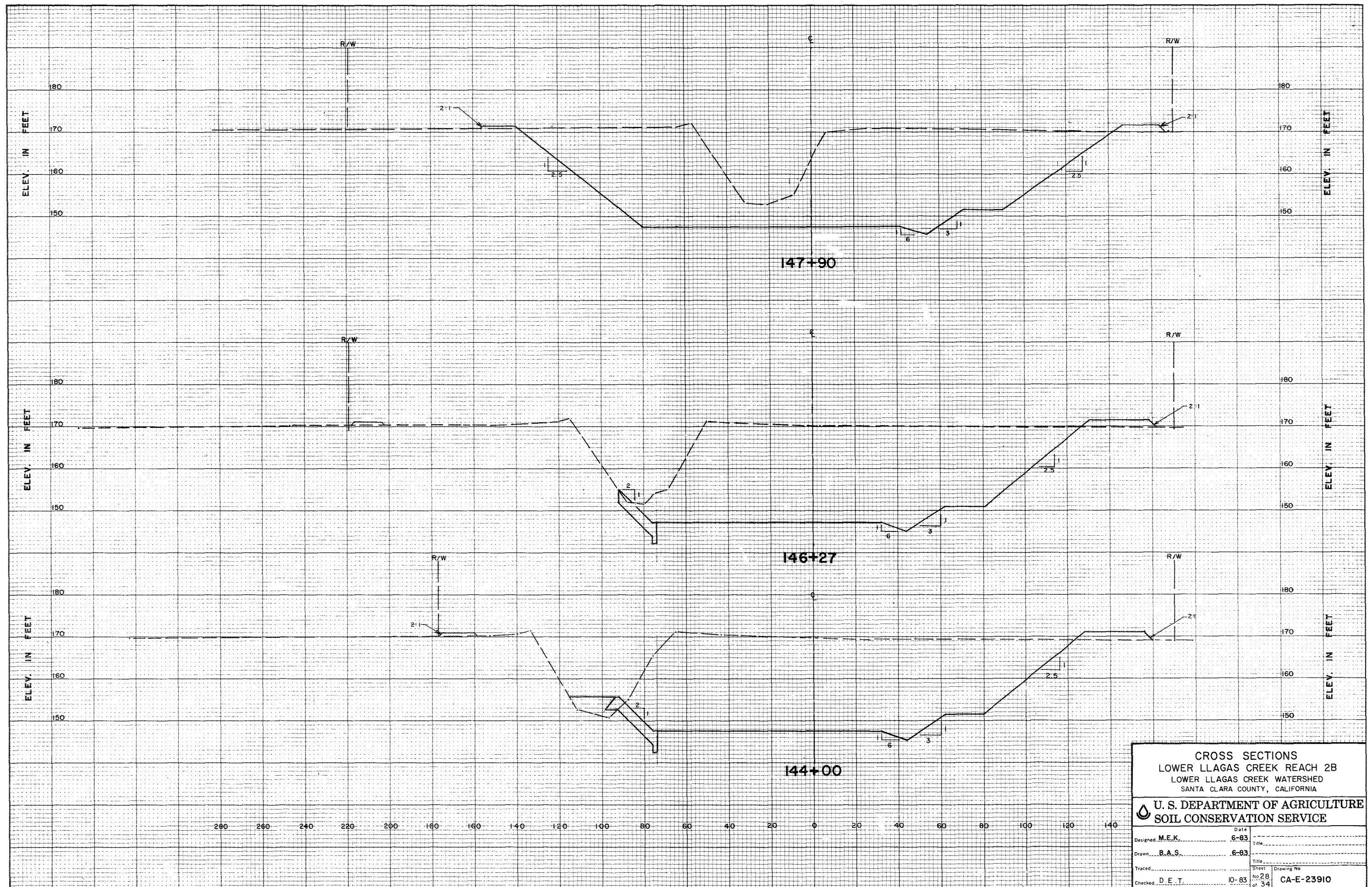
Designed	M.E.K.	Date	10-83
Drawn	D.M.R.	Title	
Traced		Sheet	25
Checked	D.E.T.	Drawing No.	CA-E-23910



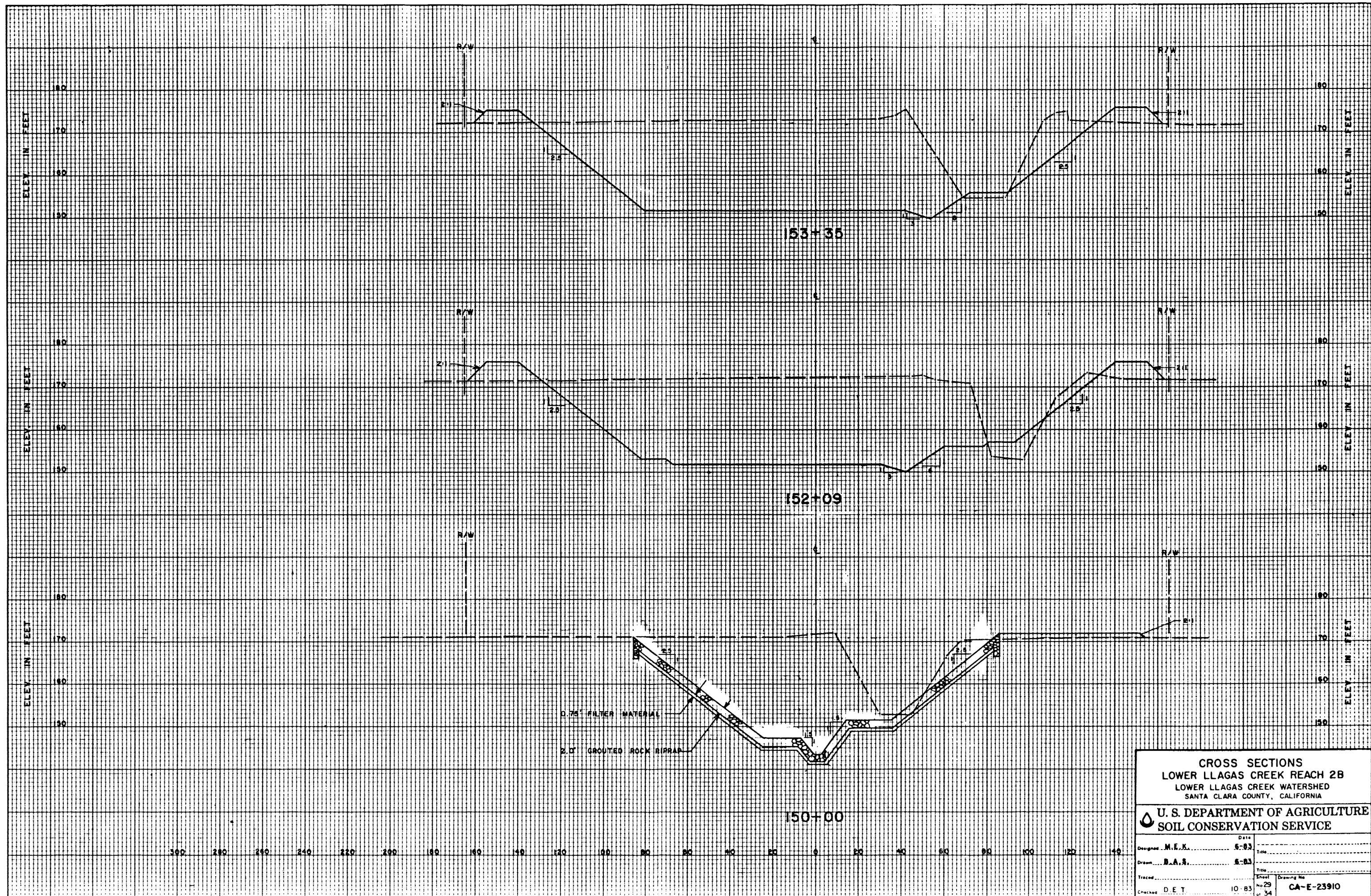
CROSS SECTIONS LOWER LLAGAS CREEK REACH 2B LOWER LLAGAS CREEK WATERSHED SANTA CLARA COUNTY, CALIFORNIA			
U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE			
Designed	M.E.K.	Date	6-83
Drawn	B.A.S.	Date	6-83
Traced		Sheet	No. 26 of 34
Checked	D.E.T.	Drawing No.	CA-E-23910



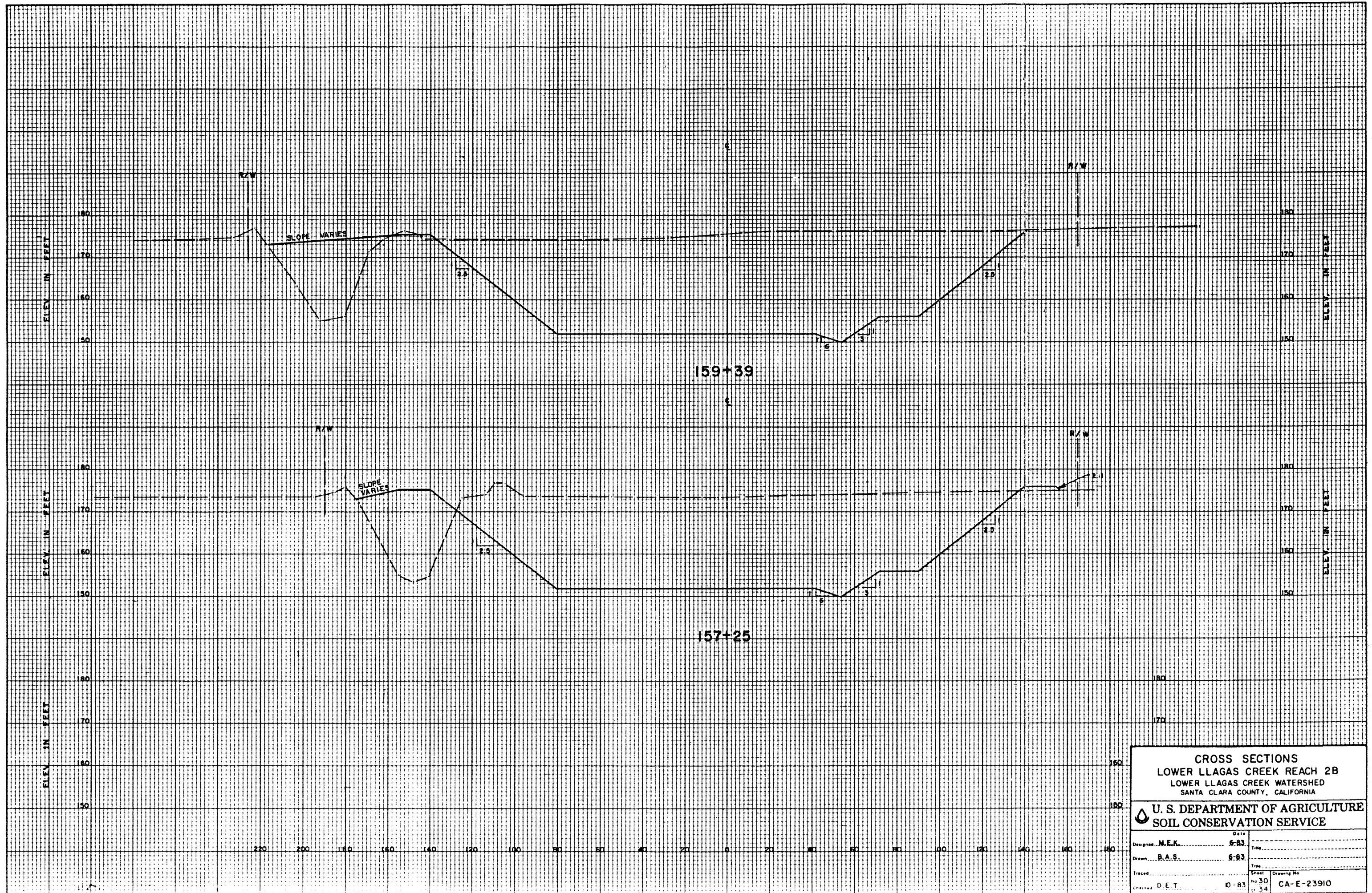
CROSS SECTIONS LOWER LLAGAS CREEK REACH 2B LOWER LLAGAS CREEK WATERSHED SANTA CLARA COUNTY, CALIFORNIA			
U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE			
Designed <u>M.E.K.</u>	Date <u>6-83</u>	Title _____	
Drawn <u>B.A.S.</u>	Date <u>6-83</u>	Title _____	
Traced _____	Sheet <u>27</u>	Drawing No. _____	
Checked <u>D.E.T.</u>	10-83	CA-E-23910	



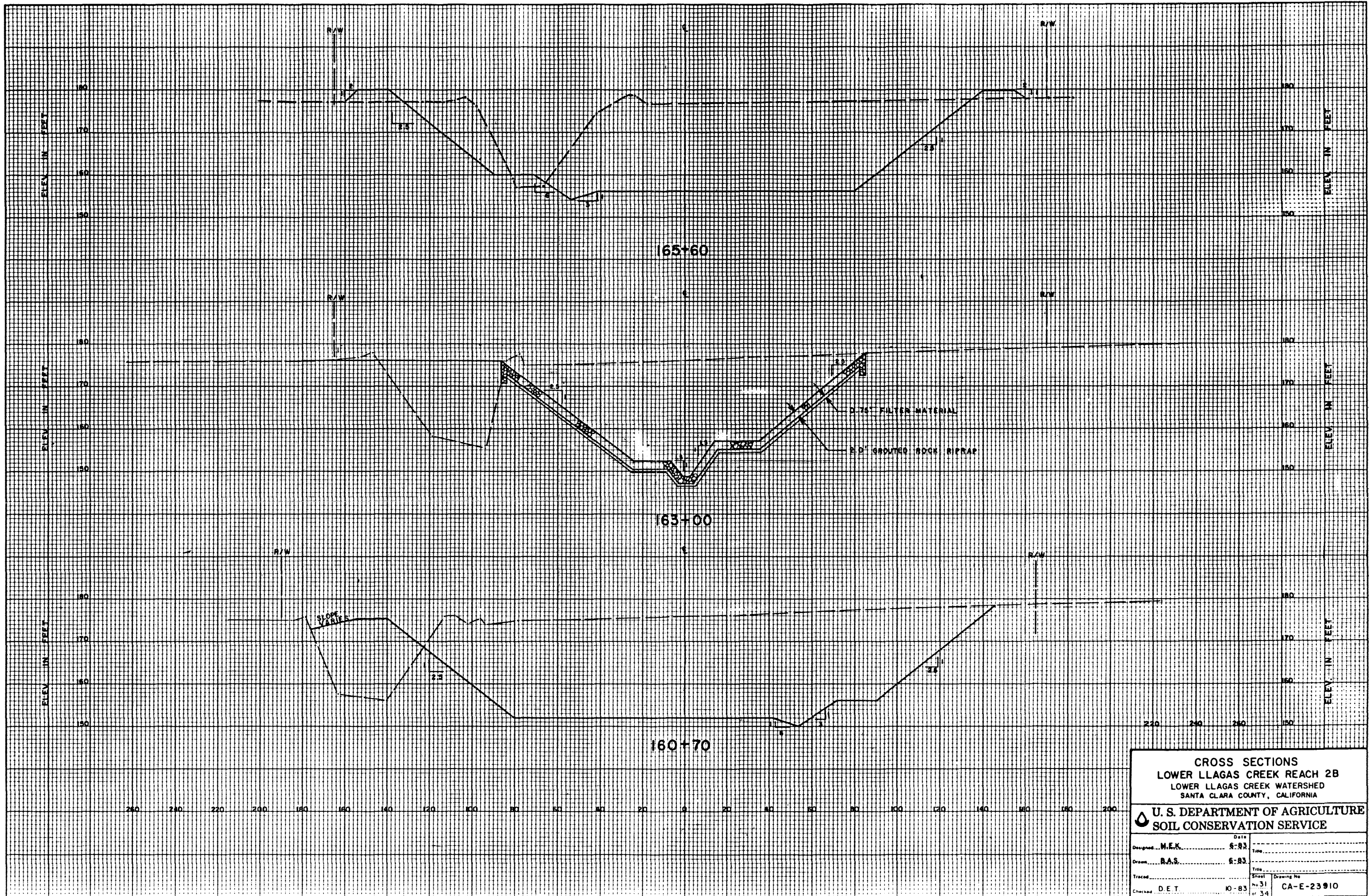
CROSS SECTIONS LOWER LLAGAS CREEK REACH 2B LOWER LLAGAS CREEK WATERSHED SANTA CLARA COUNTY, CALIFORNIA			
U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE			
Designed	M.E.K.	Date	6-83
Drawn	B.A.S.	Title	
Traced		Sheet	No 28
Checked	D.E.T.	Drawing No	of 34
CA-E-23910			

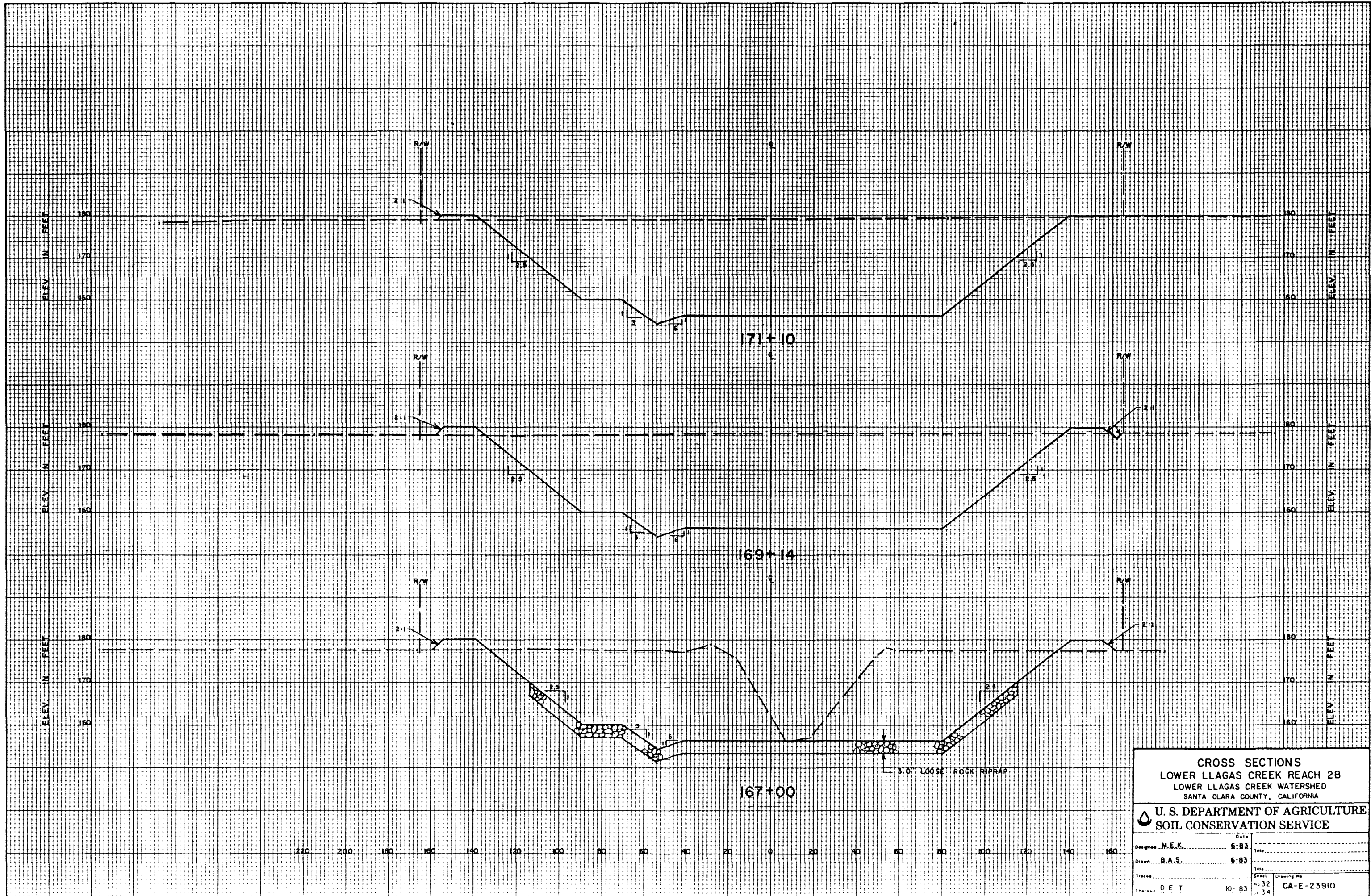


CROSS SECTIONS LOWER LLAGAS CREEK REACH 2B LOWER LLAGAS CREEK WATERSHED SANTA CLARA COUNTY, CALIFORNIA			
U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE			
Designed M.E.K.	Date 5-83	Title	
Drawn B.A.S.	Date 5-83	Title	
Traced	Sheet No. 29	Drawing No.	
Checked D.E.T.	10-83	CA-E-23910	

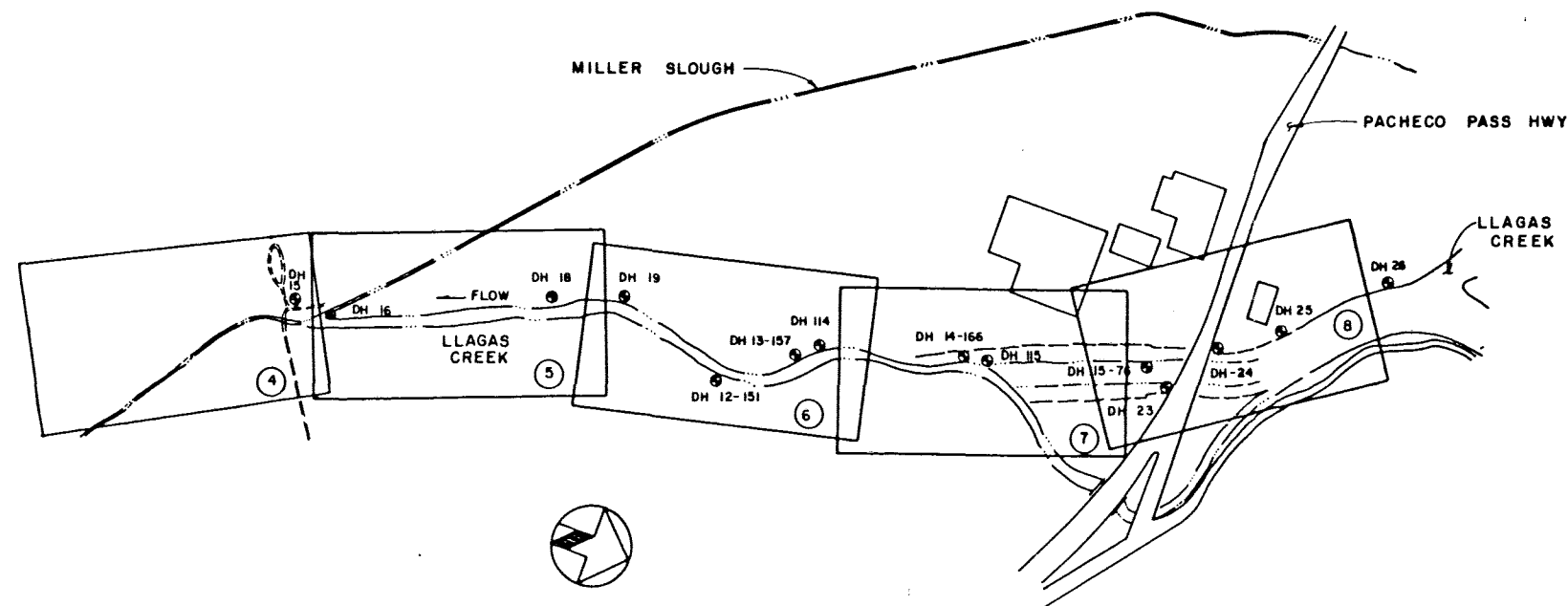
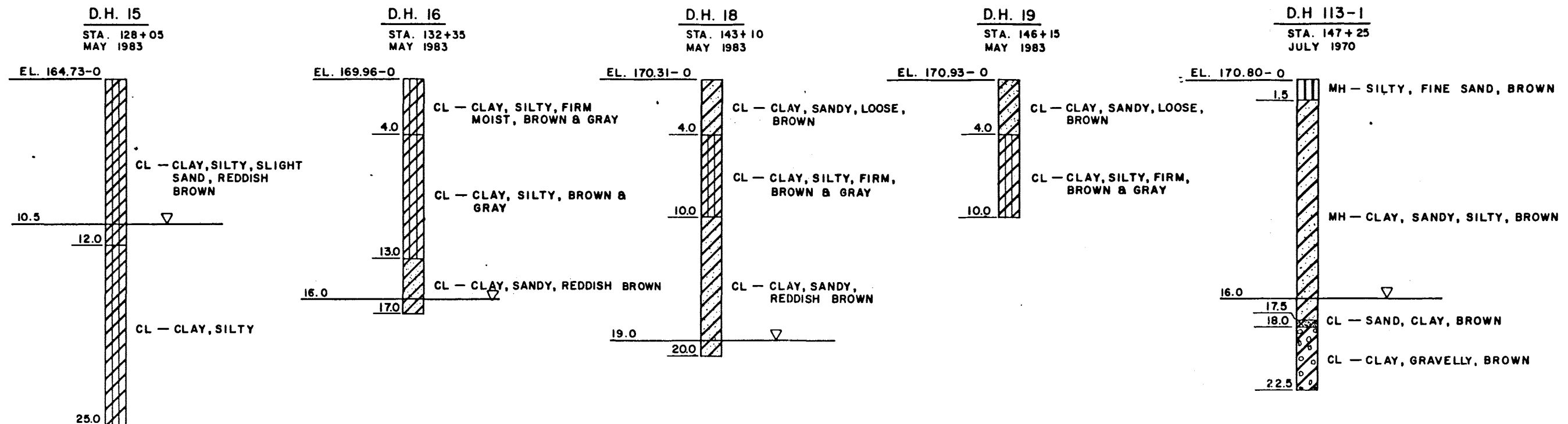


CROSS SECTIONS LOWER LLAGAS CREEK REACH 2B LOWER LLAGAS CREEK WATERSHED SANTA CLARA COUNTY, CALIFORNIA			
U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE			
Designed M.E.K.		Date 6-83	
Drawn B.A.S.		Date 6-83	
Traced		Sheet No 30	Drawing No
Checked D.E.T.		10-83	CA-E-23910





CROSS SECTIONS LOWER LLAGAS CREEK REACH 2B LOWER LLAGAS CREEK WATERSHED SANTA CLARA COUNTY, CALIFORNIA			
U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE			
Designed	M.E.K.	Date	8-83
Drawn	R.A.S.	Date	8-83
Traced		Sheet	No. 32
Checked	D.E.T.	Date	10-83
		Drawing No.	CA-E-23910



SOIL BORINGS LOCATION MAP
NO SCALE

NOTE:

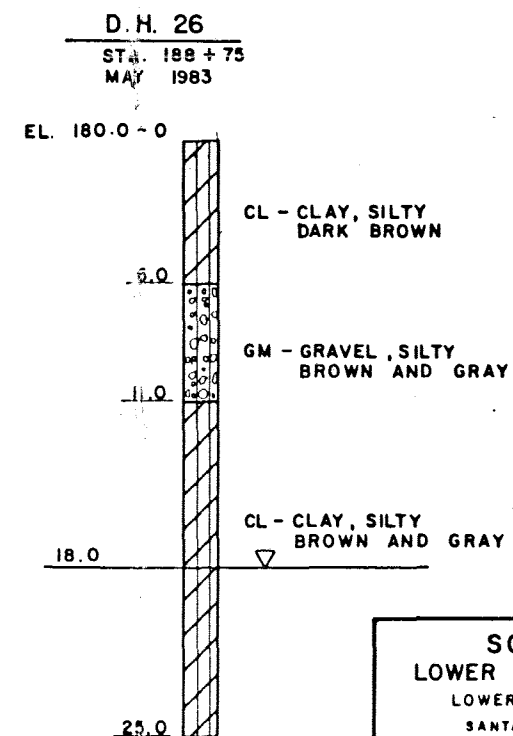
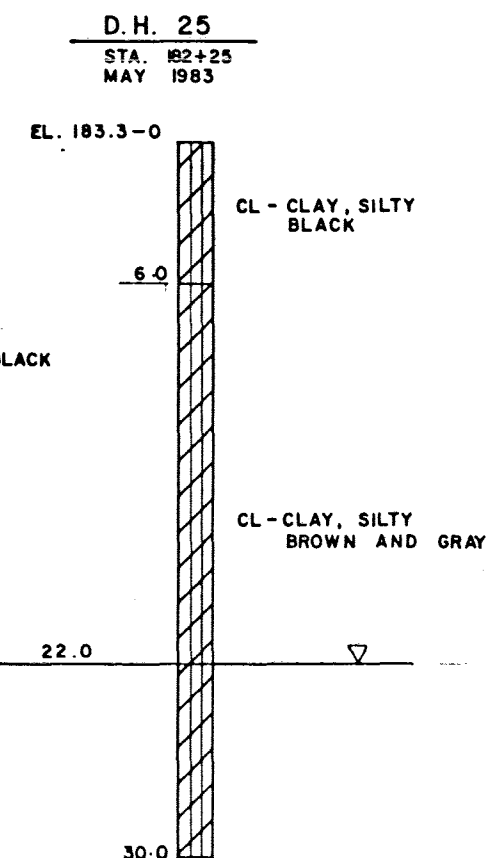
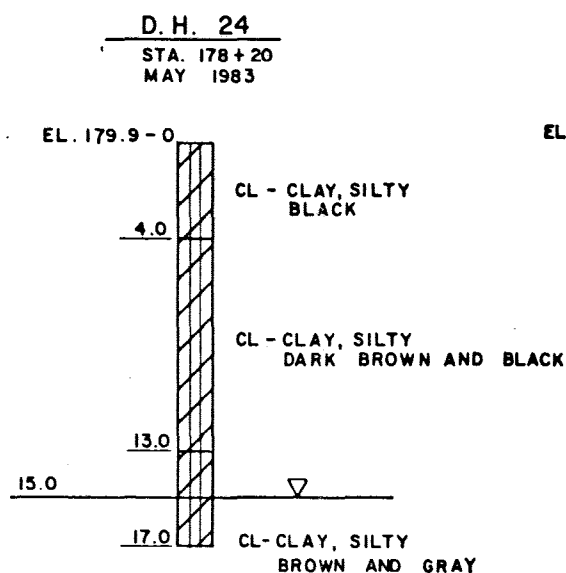
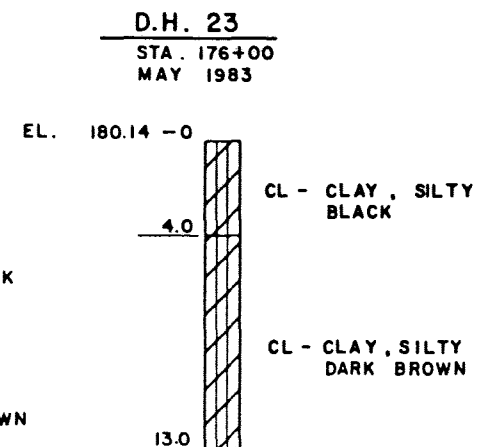
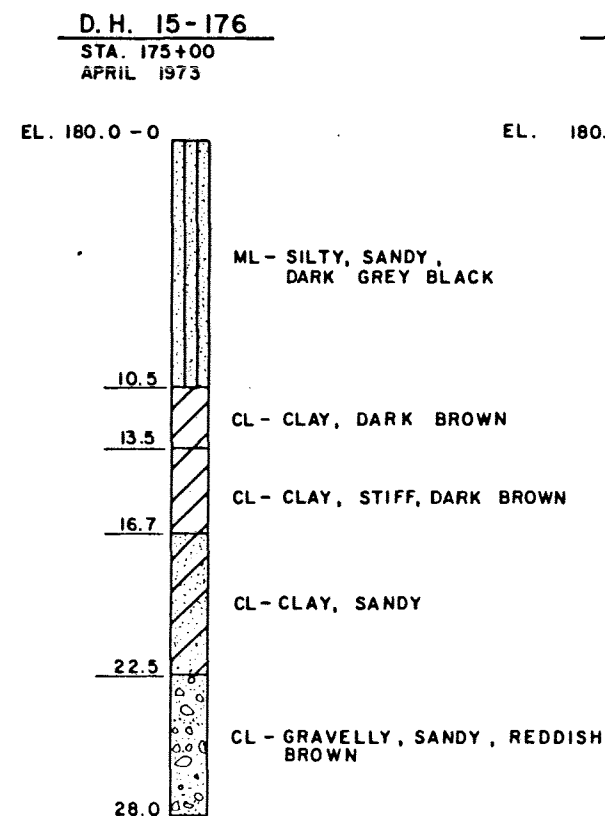
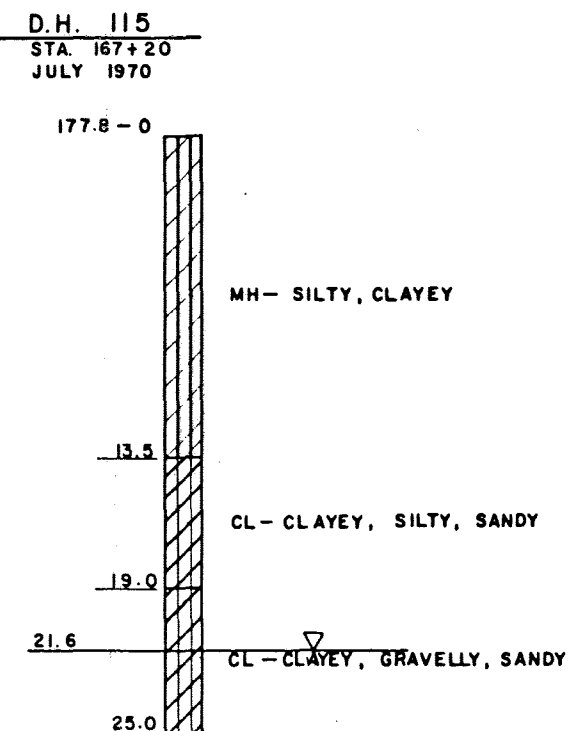
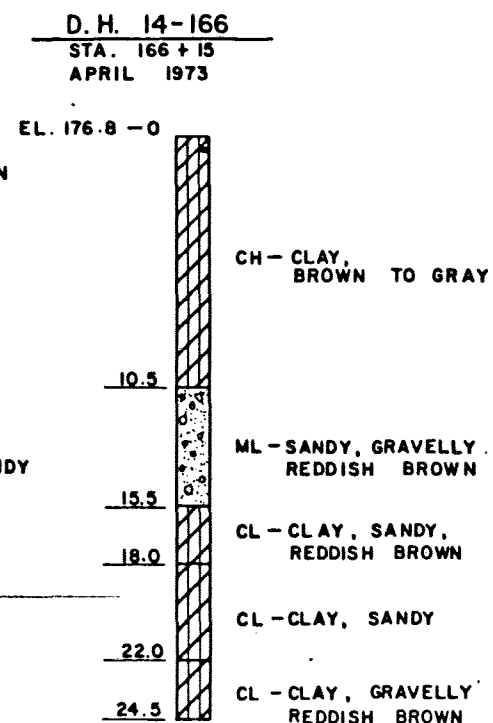
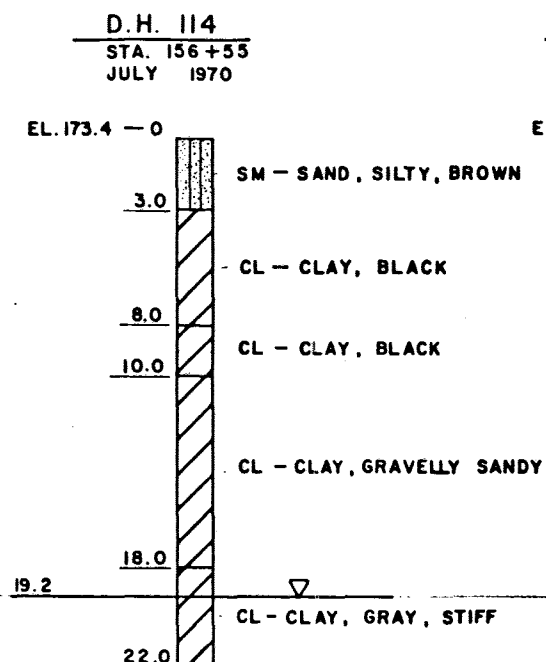
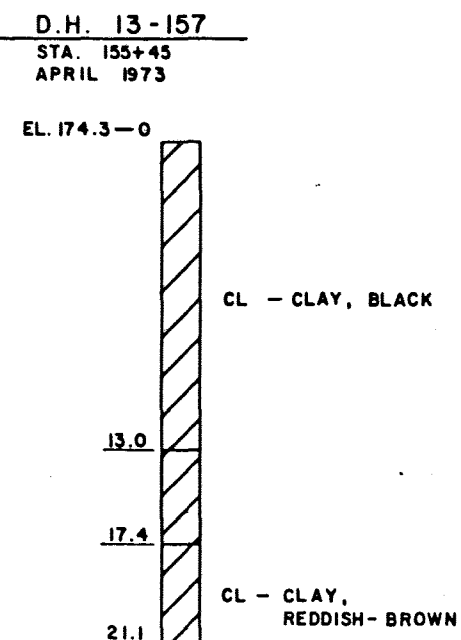
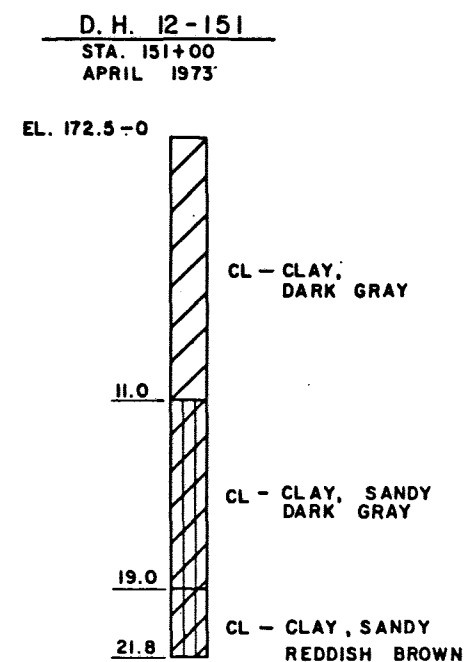
ADDITIONAL SOILS INFORMATION IS AVAILABLE AT:

SOIL CONSERVATION SERVICE
GILROY WATERSHED OFFICE
401 TENTH STREET, SUITE 2
GILROY, CA. 95020

SOIL BORINGS LOG
LOWER LLAGAS CREEK REACH 2B
LOWER LLAGAS CREEK WATERSHED
SANTA CLARA COUNTY, CALIFORNIA

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

Designed	M.E.K.	8-83	Date	
Drawn	G.E.B.	8-83	Title	
Traced			Sheet	Drawing No.
Checked	D.E.T.	10-83	No. 33	CA-E-23910



SOIL BORINGS LOG			
LOWER LLAGAS CREEK REACH 2B			
LOWER LLAGAS CREEK WATERSHED			
SANTA CLARA COUNTY, CALIFORNIA			
U. S. DEPARTMENT OF AGRICULTURE			
SOIL CONSERVATION SERVICE			
Designed	M. E. K.	Date	6-83
Drawn	G. E. R.	Date	6-83
Traced		Date	
Checked	D. E. T.	Date	10-83
		Sheet	34
		Drawing No.	CA-E-23910